

Relationship to International Classification of Sleep Disorders

The *International Classification of Sleep Disorders*, 2nd Edition, includes “confusional arousal” as a NREM sleep arousal disorder.

Nightmare Disorder

Diagnostic Criteria 307.47 (F51.5)

- A. Repeated occurrences of extended, extremely dysphoric, and well-remembered dreams that usually involve efforts to avoid threats to survival, security, or physical integrity and that generally occur during the second half of the major sleep episode.
- B. On awakening from the dysphoric dreams, the individual rapidly becomes oriented and alert.
- C. The sleep disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- D. The nightmare symptoms are not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication).
- E. Coexisting mental and medical disorders do not adequately explain the predominant complaint of dysphoric dreams.

Specify if:

During sleep onset

Specify if:

With associated non-sleep disorder, including substance use disorders

With associated other medical condition

With associated other sleep disorder

Coding note: The code 307.47 (F51.5) applies to all three specifiers. Code also the relevant associated mental disorder, medical condition, or other sleep disorder immediately after the code for nightmare disorder in order to indicate the association.

Specify if:

Acute: Duration of period of nightmares is 1 month or less.

Subacute: Duration of period of nightmares is greater than 1 month but less than 6 months.

Persistent: Duration of period of nightmares is 6 months or greater.

Specify current severity:

Severity can be rated by the frequency with which the nightmares occur:

Mild: Less than one episode per week on average.

Moderate: One or more episodes per week but less than nightly.

Severe: Episodes nightly.

Diagnostic Features

Nightmares are typically lengthy, elaborate, storylike sequences of dream imagery that seem real and that incite anxiety, fear, or other dysphoric emotions. Nightmare content typically focuses on attempts to avoid or cope with imminent danger but may involve themes that evoke other negative emotions. Nightmares occurring after traumatic experiences may replicate the threatening situation (“replicative nightmares”), but most do not. On awakening, nightmares are well remembered and can be described in detail. They arise

almost exclusively during rapid eye movement (REM) sleep and can thus occur throughout sleep but are more likely in the second half of the major sleep episode when dreaming is longer and more intense. Factors that increase early-night REM intensity, such as sleep fragmentation or deprivation, jet lag, and REM-sensitive medications, might facilitate nightmares earlier in the night, including at sleep onset.

Nightmares usually terminate with awakening and rapid return of full alertness. However, the dysphoric emotions may persist into wakefulness and contribute to difficulty returning to sleep and lasting daytime distress. Some nightmares, known as “bad dreams,” may not induce awakening and are recalled only later. If nightmares occur during sleep-onset REM periods (*hypnagogic*), the dysphoric emotion is frequently accompanied by a sense of being both awake and unable to move voluntarily (*isolated sleep paralysis*).

Associated Features Supporting Diagnosis

Mild autonomic arousal, including sweating, tachycardia, and tachypnea, may characterize nightmares. Body movements and vocalizations are not characteristic because of REM sleep–related loss of skeletal muscle tone, but such behaviors may occur under situations of emotional stress or sleep fragmentation and in posttraumatic stress disorder (PTSD). When talking or emoting occurs, it is typically a brief event terminating the nightmare.

Individuals with frequent nightmares are at substantially greater risk for suicidal ideation and suicide attempts, even when gender and mental illness are taken into account.

Prevalence

Prevalence of nightmares increases through childhood into adolescence. From 1.3% to 3.9% of parents report that their preschool children have nightmares “often” or “always”. Prevalence increases from ages 10 to 13 for both males and females but continues to increase to ages 20–29 for females (while decreasing for males), when it can be twice as high for females as for males. Prevalence decreases steadily with age for both sexes, but the gender difference remains. Among adults, prevalence of nightmares at least monthly is 6%, whereas prevalence for frequent nightmares is 1%–2%. Estimates often combine idiopathic and posttraumatic nightmares indiscriminately.

Development and Course

Nightmares often begin between ages 3 and 6 years but reach a peak prevalence and severity in late adolescence or early adulthood. Nightmares most likely appear in children exposed to acute or chronic psychosocial stressors and thus may not resolve spontaneously. In a minority, frequent nightmares persist into adulthood, becoming virtually a lifelong disturbance. Although specific nightmare content may reflect the individual’s age, the essential features of the disorder are the same across age groups.

Risk and Prognostic Factors

Temperamental. Individuals who experience nightmares report more frequent past adverse events, but not necessarily trauma, and often display personality disturbances or psychiatric diagnosis.

Environmental. Sleep deprivation or fragmentation, and irregular sleep-wake schedules that alter the timing, intensity, or quantity of REM sleep, can put individuals at risk for nightmares.

Genetic and physiological. Twin studies have identified genetic effects on the disposition to nightmares and their co-occurrence with other parasomnias (e.g., sleepwalking).

Course modifiers. Adaptive parental bedside behaviors, such as soothing the child following nightmares, may protect against developing chronic nightmares.

Culture-Related Diagnostic Issues

The significance attributed to nightmares may vary by culture, and sensitivity to such beliefs may facilitate disclosure.

Gender-Related Diagnostic Issues

Adult females report having nightmares more frequently than do adult males. Nightmare content differs by sex, with adult females tending to report themes of sexual harassment or of loved ones disappearing/dying, and adult males tending to report themes of physical aggression or war/terror.

Diagnostic Markers

Polysomnographic studies demonstrate abrupt awakenings from REM sleep, usually during the second half of the night, prior to report of a nightmare. Heart, respiratory, and eye movement rates may quicken or increase in variability before awakening. Nightmares following traumatic events may also arise during non-REM (NREM), particularly stage 2, sleep. The typical sleep of individuals with nightmares is mildly impaired (e.g., reduced efficiency, less slow-wave sleep, more awakenings), with more frequent periodic leg movements in sleep and relative sympathetic nervous system activation after REM sleep deprivation.

Functional Consequences of Nightmare Disorder

Nightmares cause more significant subjective distress than demonstrable social or occupational impairment. However, if awakenings are frequent or result in sleep avoidance, individuals may experience excessive daytime sleepiness, poor concentration, depression, anxiety, or irritability. Frequent childhood nightmares (e.g., several per week), may cause significant distress to parents and child.

Differential Diagnosis

Sleep terror disorder. Both nightmare disorder and sleep terror disorder include awakenings or partial awakenings with fearfulness and autonomic activation, but the two disorders are differentiable. Nightmares typically occur later in the night, during REM sleep, and produce vivid, storylike, and clearly recalled dreams; mild autonomic arousal; and complete awakenings. Sleep terrors typically arise in the first third of the night during stage 3 or 4 NREM sleep and produce either no dream recall or images without an elaborate storylike quality. The terrors lead to partial awakenings that leave the individual confused, disoriented, and only partially responsive and with substantial autonomic arousal. There is usually amnesia for the event in the morning.

REM sleep behavior disorder. The presence of complex motor activity during frightening dreams should prompt further evaluation for REM sleep behavior disorder, which occurs more typically among late middle-age males and, unlike nightmare disorder, is associated with often violent dream enactments and a history of nocturnal injuries. The dream disturbance of REM sleep behavior disorder is described by patients as nightmares but is controlled by appropriate medication.

Bereavement. Dysphoric dreams may occur during bereavement but typically involve loss and sadness and are followed by self-reflection and insight, rather than distress, on awakening.

Narcolepsy. Nightmares are a frequent complaint in narcolepsy, but the presence of excessive sleepiness and cataplexy differentiates this condition from nightmare disorder.

Nocturnal seizures. Seizures may rarely manifest as nightmares and should be evaluated with polysomnography and continuous video electroencephalography. Nocturnal seizures usually involve stereotypical motor activity. Associated nightmares, if recalled,

are often repetitive in nature or reflect epileptogenic features such as the content of diurnal auras (e.g., unmotivated dread), phosphenes, or ictal imagery. Disorders of arousal, especially confusional arousals, may also be present.

Breathing-related sleep disorders. Breathing-related sleep disorders can lead to awakenings with autonomic arousal, but these are not usually accompanied by recall of nightmares.

Panic disorder. Attacks arising during sleep can produce abrupt awakenings with autonomic arousal and fearfulness, but nightmares are typically not reported and symptoms are similar to panic attacks arising during wakefulness.

Sleep-related dissociative disorders. Individuals may recall actual physical or emotional trauma as a “dream” during electroencephalography-documented awakenings.

Medication or substance use. Numerous substances/medications can precipitate nightmares, including dopaminergics; beta-adrenergic antagonists and other antihypertensives; amphetamine, cocaine, and other stimulants; antidepressants; smoking cessation aids; and melatonin. Withdrawal of REM sleep-suppressant medications (e.g., antidepressants) and alcohol can produce REM sleep rebound accompanied by nightmares. If nightmares are sufficiently severe to warrant independent clinical attention, a diagnosis of substance/medication-induced sleep disorder should be considered.

Comorbidity

Nightmares may be comorbid with several medical conditions, including coronary heart disease, cancer, parkinsonism, and pain, and can accompany medical treatments, such as hemodialysis, or withdrawal from medications or substances of abuse. Nightmares frequently are comorbid with other mental disorders, including PTSD; insomnia disorder; schizophrenia; psychosis; mood, anxiety, adjustment, and personality disorders; and grief during bereavement. A concurrent nightmare disorder diagnosis should only be considered when independent clinical attention is warranted (i.e., Criteria A–C are met). Otherwise, no separate diagnosis is necessary. These conditions should be listed under the appropriate comorbid category specifier. However, nightmare disorder may be diagnosed as a separate disorder in individuals with PTSD if the nightmares are temporally unrelated to PTSD (i.e., preceding other PTSD symptoms or persisting after other PTSD symptoms have resolved).

Nightmares are normally characteristic of REM sleep behavior disorder, PTSD, and acute stress disorder, but nightmare disorder may be independently coded if nightmares preceded the condition and their frequency or severity necessitates independent clinical attention. The latter may be determined by asking whether nightmares were a problem before onset of the other disorder and whether they continued after other symptoms had remitted.

Relationship to International Classification of Sleep Disorders

The *International Classification of Sleep Disorders*, 2nd Edition (ICSD-2), presents similar diagnostic criteria for nightmare disorder.

Rapid Eye Movement Sleep Behavior Disorder

Diagnostic Criteria

327.42 (G47.52)

- A. Repeated episodes of arousal during sleep associated with vocalization and/or complex motor behaviors.
- B. These behaviors arise during rapid eye movement (REM) sleep and therefore usually occur more than 90 minutes after sleep onset, are more frequent during the later portions of the sleep period, and uncommonly occur during daytime naps.

- C. Upon awakening from these episodes, the individual is completely awake, alert, and not confused or disoriented.
 - D. Either of the following:
 - 1. REM sleep without atonia on polysomnographic recording.
 - 2. A history suggestive of REM sleep behavior disorder and an established synucleinopathy diagnosis (e.g., Parkinson's disease, multiple system atrophy).
 - E. The behaviors cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (which may include injury to self or the bed partner).
 - F. The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.
 - G. Coexisting mental and medical disorders do not explain the episodes.
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Diagnostic Features

The essential feature of rapid eye movement (REM) sleep behavior disorder is repeated episodes of arousal, often associated with vocalizations and/or complex motor behaviors arising from REM sleep (Criterion A). These behaviors often reflect motor responses to the content of action-filled or violent dreams of being attacked or trying to escape from a threatening situation, which may be termed *dream enacting behaviors*. The vocalizations are often loud, emotion-filled, and profane. These behaviors may be very bothersome to the individual and the bed partner and may result in significant injury (e.g., falling, jumping, or flying out of bed; running, punching, thrusting, hitting, or kicking). Upon awakening, the individual is immediately awake, alert, and oriented (Criterion C) and is often able to recall dream mentation, which closely correlates with the observed behavior. The eyes typically remain closed during these events. The diagnosis of REM sleep behavior disorder requires clinically significant distress or impairment (Criterion E); this determination will depend on a number of factors, including the frequency of events, the potential for violence or injurious behaviors, embarrassment, and distress in other household members.

Associated Features Supporting Diagnosis

Severity determination is best made based on the nature or consequence of the behavior rather than simply on frequency. Although the behaviors are typically prominent and violent, lesser behaviors may also occur.

Prevalence

The prevalence of REM sleep behavior disorder is approximately 0.38%–0.5% in the general population. Prevalence in patients with psychiatric disorders may be greater, possibly related to medications prescribed for the psychiatric disorder.

Development and Course

The onset of REM sleep behavior disorder may be gradual or rapid, and the course is usually progressive. REM sleep behavior disorder associated with neurodegenerative disorders may improve as the underlying neurodegenerative disorder progresses. Because of the very high association with the later appearance of an underlying neurodegenerative disorder, most notably one of the synucleinopathies (Parkinson's disease, multiple system atrophy, or major or mild neurocognitive disorder with Lewy bodies), the neurological status of individuals with REM sleep behavior disorder should be closely monitored.

REM sleep behavior disorder overwhelmingly affects males older than 50 years, but increasingly this disorder is being identified in females and in younger individuals. Symp-

toms in young individuals, particularly young females, should raise the possibility of narcolepsy or medication-induced REM sleep behavior disorder.

Risk and Prognostic Factors

Genetic and physiological. Many widely prescribed medications, including tricyclic antidepressants, selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, and beta-blockers, may result in polysomnographic evidence of REM sleep without atonia and in frank REM sleep behavior disorder. It is not known whether the medications per se result in REM sleep behavior disorder or they unmask an underlying predisposition.

Diagnostic Markers

Associated laboratory findings from polysomnography indicate increased tonic and/or phasic electromyographic activity during REM sleep that is normally associated with muscle atonia. The increased muscle activity variably affects different muscle groups, mandating more extensive electromyographic monitoring than is employed in conventional sleep studies. For this reason, it is suggested that electromyographic monitoring include the submentalis, bilateral extensor digitorum, and bilateral anterior tibialis muscle groups. Continuous video monitoring is mandatory. Other polysomnographic findings may include very frequent periodic and aperiodic extremity electromyography activity during non-REM (NREM) sleep. This polysomnography observation, termed *REM sleep without atonia*, is present in virtually all cases of REM sleep behavior disorder but may also be an asymptomatic polysomnographic finding. Clinical dream-enacting behaviors coupled with the polysomnographic finding of REM without atonia is necessary for the diagnosis of REM sleep behavior disorder. REM sleep without atonia without a clinical history of dream-enacting behaviors is simply an asymptomatic polysomnographic observation. It is not known whether isolated REM sleep without atonia is a precursor to REM sleep behavior disorder.

Functional Consequences of Rapid Eye Movement Sleep Behavior Disorder

REM sleep behavior disorder may occur in isolated occasions in otherwise unaffected individuals. Embarrassment concerning the episodes can impair social relationships. Individuals may avoid situations in which others might become aware of the disturbance, visiting friends overnight, or sleeping with bed partners. Social isolation or occupational difficulties can result. Uncommonly, REM sleep behavior disorder may result in serious injury to the victim or to the bed partner.

Differential Diagnosis

Other parasomnias. Confusional arousals, sleepwalking, and sleep terrors can easily be confused with REM sleep behavior disorder. In general, these disorders occur in younger individuals. Unlike REM sleep behavior disorder, they arise from deep NREM sleep and therefore tend to occur in the early portion of the sleep period. Awakening from a confusional arousal is associated with confusion, disorientation, and incomplete recall of dream mentation accompanying the behavior. Polysomnographic monitoring in the disorders of arousal reveals normal REM atonia.

Nocturnal seizures. Nocturnal seizures may perfectly mimic REM sleep behavior disorder, but the behaviors are generally more stereotyped. Polysomnographic monitoring employing a full electroencephalographic seizure montage may differentiate the two. REM sleep without atonia is not present on polysomnographic monitoring.