

REM sleep behavior disorder

REM sleep behavior disorder (RBD) is a [sleep disorder](#) characterized by the loss of muscle [atonia](#) ([paralysis](#)) during the [rapid eye movement](#) (REM) sleep stage. Normally, during REM sleep, the brain sends signals to inhibit muscle activity, preventing individuals from physically acting out their dreams. In RBD, this inhibition is impaired, leading to the manifestation of dream-enacting behaviors.

Common features and characteristics of REM sleep behavior disorder include:

Acting out dreams: Individuals with RBD may physically and vividly act out their dreams during REM sleep. These actions can range from simple limb movements, such as punching or kicking, to more complex behaviors, such as jumping out of bed or even violent movements.

Vocalizations: Along with the physical movements, individuals with RBD may produce sounds, such as talking, shouting, or screaming, which correspond to the content of their dreams.

Safety concerns: RBD can pose a risk to the affected individual and their sleep partner. In some cases, injuries can occur due to violent movements during sleep. Safety measures, such as removing potentially dangerous objects from the bedroom or using protective padding, may be necessary.

Dream recall: People with RBD often remember their dreams in vivid detail, even after awakening. The content of these dreams can be intense, action-packed, and sometimes frightening.

RBD is associated with certain underlying neurological conditions, such as Parkinson's disease, multiple system atrophy, and Lewy body dementia. However, in some cases, RBD can occur without any apparent neurological cause (idiopathic RBD).

If RBD is suspected, a comprehensive evaluation by a sleep specialist may include:

Clinical assessment: Detailed questioning about sleep behaviors, dream content, and any associated symptoms or medical conditions.

Polysomnography: Overnight sleep study that monitors brain activity, eye movements, muscle tone, and other physiological parameters to identify the presence of REM sleep without muscle atonia.

Video recording: Simultaneous video recording during the polysomnography can provide visual evidence of the dream-enacting behaviors.

Management of RBD often involves treatment with medication, such as melatonin or clonazepam, which can help reduce the intensity and frequency of dream-enacting behaviors. Additionally, implementing safety measures in the sleeping environment is crucial to prevent injuries.

[Synucleinopathy](#)-related [disorders](#) such as [Lewy body dementia](#) (LBD) and [Isolated REM sleep behavior disorder](#) (iRBD) have been associated with [neuroinflammation](#). Yu et al. examined whether the [human leukocyte antigen](#) (HLA) locus plays a role in iRBD and LBD. In iRBD, HLA-DRB1*11:01 was the only allele passing FDR correction (OR = 1.57, 95% CI = 1.27-1.93, $p = 2.70e-05$). We also discovered associations between iRBD and HLA-DRB1 70D (OR = 1.26, 95%CI = 1.12-1.41, $p = 8.76e-05$), 70Q (OR = 0.81, 95%CI = 0.72-0.91, $p = 3.65e-04$) and 71R (OR = 1.21, 95%CI = 1.08-1.35, $p = 1.35e-03$). Position 71 (pomnibus = 0.00102) and 70 (pomnibus = 0.00125) were

associated with iRBD. The results suggest that the HLA [locus](#) may have different roles across [synucleinopathy](#) ¹⁾

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Yu E, Krohn L, Ruskey JA, Asayesh F, Spiegelman D, Shah Z, Chia R, Arnulf I, Hu MTM, Montplaisir JY, Gagnon JF, Desautels A, Dauvilliers Y, Gigli GL, Valente M, Janes F, Bernardini A, Högl B, Stefani A, Ibrahim A, Heidebreder A, Sonka K, Dusek P, Kemlink D, Oertel W, Janzen A, Plazzi G, Antelmi E, Figorilli M, Puligheddu M, Mollenhauer B, Trenkwalder C, Sixel-Döring F, Cochen De Cock V, Ferini-Strambi L, Dijkstra F, Viaene M, Abril B, Boeve BF, Rouleau GA, Postuma RB; International LBD Genomics Consortium; Scholz SW, Gan-Or Z. HLA in isolated REM sleep behavior disorder and Lewy body dementia. *Ann Clin Transl Neurol*. 2023 Jul 4. doi: 10.1002/acn3.51841. Epub ahead of print. PMID: 37401389.

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