Overview

Patients with rapid eye movement behavior disorder (RBD) act out dramatic and/or violent dreams during rapid eye movement (REM) stage sleep. Another feature of RBD is shouting and grunting. RBD seems similar to other sleep disorders that involve motor activity, like sleepwalking or periodic limb movement disorder. Unlike these conditions, RBD movements occur during REM sleep, which is usually characterized by a state of atonia, or sleep paralysis. Diagnosis and treatment involves Polysomnography with video, drug therapy, and the exclusion of potentially serious neurological disorders. It also may be necessary to record several nights of ambulatory Electroencephalograph (EEG). The patient may be awakened or may wake spontaneously during the attack and have vivid recall of the dream that corresponds with the physical action.

REM is usually seen in men 60 years old or older, but also occurs in younger people and in women. Incidents of REM behavior disorder are often described anecdotally to family members and not to physicians, so statistics of incidence are inexact. In the general population, the estimated occurrence of RBD is .5%. There are no racial differences in incidence and prevalence.

No death has been reported, however patients and bed partners may experience serious injury.

Quick Facts about REM Behavior Disorder

Presentation
RBD episodes are often triggered by physical dreams that involve fighting, kicking, dancing etc. Some people have been known to run out of bed, down stairs, into walls or out doors and windows. However, most RBD activity is confined to the bed.

Diagnosis
RBD is usually diagnosed by a thorough patient history, videos of REM sleep activity and polysomnography. In severe cases of RBD that do not respond to treatment, MRI scans can be helpful in detecting other conditions that may cause similar episodes.

Treatment
Often people with RBD risk injury to themselves or their bed partners. Separate beds in ground floor bedrooms are recommended. Homes should have latches and locks on all doors. Windows should have heavy curtains to make walking through them more difficult. Sharp objects and furniture should be removed from the sleeping areas. Often the RBD sufferer doesn’t understand these precautions because he has no memory of the episodes.
**Physiology and Causes**

Rapid eye movement behavior disorder is an uncommon sleep disorder first described in 1986. There is no known cause for RBD. It is, however, known to occur during rapid eye movement sleep, which is characterized by brain activity patterns that resemble wakefulness and which has been documented with polysomnography and other sleep tests. Most dreaming occurs during REM sleep. Another characteristic of REM sleep is a general state of atonia, or muscle paralysis. So, while the brain is very active during REM sleep, the body is usually still.

**Sleep Paralysis**

The basic mechanism for REM sleep paralysis is found in the brainstem, the part of the brain that connects the spinal cord to the cerebral hemispheres. Though physicians do not thoroughly understand the complex processes, it is known that the brainstem undergoes changes in REM sleep that result in paralysis of the body’s voluntary muscles. Certain neurotransmitters, like acetylcholine (Ach), become dormant and do not communicate motor activity. The absence of muscular contraction during REM can be seen with Polysomnography. The electroencephalogram (EEG) shows elevated brain activity during REM.

Physicians hypothesize that the brain naturally and purposely prevents motor activity during REM sleep to ensure restful, inactive sleep during the most electrically active stage of sleep. In this context, sleep paralysis describes a normal state of sleep, unlike sleep paralysis experienced in Narcolepsy, which affects people while they are trying to stay awake.

**Motor Activity and REM Sleep**

In RBD, neurotransmitters are not blocked, and the voluntary muscles become tonic, or tensely contracted, allowing a sleeping person to move his or her muscles during REM. Rapid eye movement behavior disorder is characterized by significant submental (under the chin) and limb muscle tone. The combination of heightened cerebral activity and muscular tonicity results in physically acting out dreams that involve excited and sometimes violent movement.

The body can be rigid and extremely tense during episodes of RBD. For example, a person might straighten his or her leg, flexing it intensely for several seconds or a minute. Often, sleepers curl up slightly, while flexing their limbs and chin.

People with RBD typically remember little nothing of this activity, unless they fall out of bed, bump into the furniture, or injure themselves and wake up. But they can usually remember and tell the dreams they were having during an episode.

Dreams that involve physical or violent activity—such as fighting, dancing, running, chasing, attacking, being attacked, running from an assailant—are more likely to trigger RBD activity. Sleepers with RBD sometimes injure their bed partners. Some people have been known to leave the bed, run into a wall, run through a window, or run down the stairs. Usually, RBD activity is confined to the bed and surrounding areas.

**Treatment**

REM Behavior disorder is treated symptomatically by various medications although the response may vary in individual cases. Therefore, all medications should be tried before considering the patient’s RBD intractable. Also, environmental precautions should be taken such as removing sharp objects from the bedroom.