



Therapy and Treatment options for REM Sleep Behavior Disorder

Courtney Maslanka
Dr. Caryl Fish: Integrated Science

Introduction: Do drugs such as melatonin and clonazepam or bed alarm therapy effectively treat REM sleep behavior disorder? “REM sleep behavior disorder (RBD) is a multifaceted parasomnia involving REM sleep and the motor system in which there is problematic behavioral release that is usually experienced by the individual as enactment of distinctly altered, unpleasant, and combative dreams (Schenck, Mahowald).” Blumberg and Plumeau have stated that, those with RBD show an increase in muscle tone and exaggerated twitching during REM sleep and violent movements of the limbs (1). “Furthermore, a questionnaire study of RBD patients with PD [73] found that “the most common associated dream was fighting or fleeing in response to danger (91%), whereas pleasant activity was reported in 20% [of] patients and daily activity in 22%” [2, p. 678] (Blumberg, Plumeau).” It is important to conduct sleep studies to further understand RBD and find the best drugs to treat the disorder properly.

Background:

- RBD effects approximately 0.5% of the population
- Typically effecting the older population, more men than women
- When in effect of the elderly it is often associated with later developing Parkinson’s
- When in effect of the young it is often associated with antidepressants and narcolepsy
- Physically acting out vivid dreams, typically violent or unpleasant
- Thought that actions result from a dysfunction of Atonia-producing neural circuitry in the brainstem
- REM sleep without atonia (RSWA) is increased electromyographic (EMG) tone during REM sleep
- A REM sleep disorder can be diagnosed by experiencing RSWA and abnormal REM sleep behavior which is recurrent DEB. A polysomnography is used for diagnosing patients with RBD.
- A polysomnography is used to diagnose sleep disorders (Mayoclinic), recording brain waves, heart and breathing rate, oxygen level in the blood and leg and eye movements
- No precursor to symptoms for an early diagnosis
- No known cures or treatments
- Studies done with Melatonin and Clonazepam and Bed Alarm Therapy

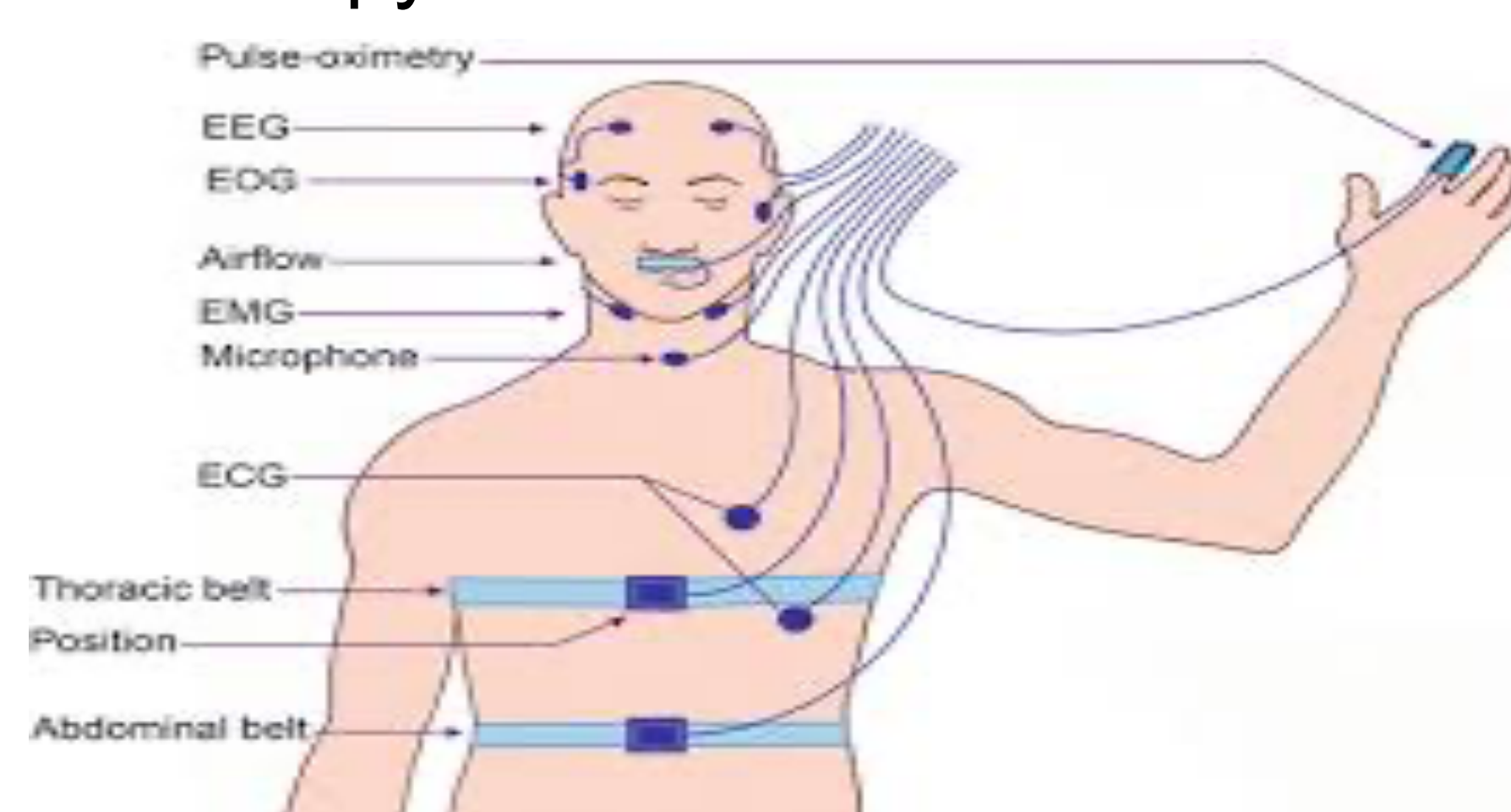


Figure 1: Wire setup placements during a polysomnography (Pandi-Perumal).

Research Studies

Melatonin:

- In this article, McGrane, Leung, St. Louis and Boeve show that melatonin appears to be beneficial for the management of RBD reduction in clinical behavior outcomes and a decrease in muscle tonicity during REM sleep.
- Double-blind placebo-controlled crossover trial to evaluate effects of melatonin on the percentage of REM sleep without Antonia (RSWA) and improvement scores in subjects with RBD.
- Received placebo or 3 mg of melatonin at night during a four-week period
- 3-5-day break and switch of treatment
- Polysomnography was done 3 times with a baseline before any treatment and after
- Researchers saw reduced signs of RSWA and sleep-onset latency compared to baseline
- No statistically significant change when compared to placebo
- Overall, the trials were able to show that melatonin reduces RSWA but cannot show a statistically significant reduction compared to the placebo. Overall, it is safe to conclude that melatonin is neither a good nor bad treatment for treating RBD symptoms when compared to doing nothing (McGrane).

Clonazepam:

- A group of researchers, Anderson et. al, reviewed 39 patients with confirmed RBD and treated at their sleep center to assess both efficacy and side effects of drug therapies.
- 38 male and 1 female with an average age of 65.7 years
- All 39 received clonazepam with a starting dose of 0.5 mg per night and changes made at each clinic review, if necessary
- Final dosages ranged from 0.25 mg to 2mg with one patient receiving 4mg
- 58% reported moderate or severe side effects
- 6 patients stopped the medication
- 7 switched to alternative medication
- 5 decreased the dose and 3 continued despite side effects
- A common side effect seen was excessive daytime sedation, confusion and cognitive impairment
- Overall, there was no significant data to show that clonazepam was an effective treatment
- Some patients saw little reduction in symptoms and others could not handle side effects from the drug and did not want to continue with treatment.

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Bed Alarm Therapy:

- In this article researchers, Howell, Arneson, and Schenck were testing bed alarm therapy in patients diagnosed with RBD.
- Group of patients resistant to medication
- Four patients ranging from 61 to 87 years old
- Using friends or family voices for the alarm
- Three of the four patients got fitted with a Posey Sitter Select bed alarm and one patient got a TABS bed exit monitor
- Posey is a pressure-sensing pad underneath shoulders
- Tabs is the pressure-sensing pad and a cord attached to clothing
- When the patients arise from the bed an alarm sounds of the voice recording and repeats on a loop until properly back on the pressure pad or the cord is reconnected
- Patients should a reduction in RBD symptoms
- Bed Alarm Therapy can be shown to be an effective treatment for some patients but not all, especially after the two main drug options have failed the patient.



Figure 2: Posey-sitter Bed alarm System (Posey) <https://www.vitalitymedical.com/posey-alarm-sensors.html>

Analysis:

- Uncommon disorder often diagnosed in men around 60 years of age
- Seek treatment to minimize symptoms
- Research shows medication and therapy produces a reduction in symptoms but not a significant difference
- More research needs to be done in the future to fully understand RBD
- Each case is different and varies from patient to patient

Conclusion:

This paper discusses treatment and therapy options for patients diagnosed with REM sleep behavior disorder. Melatonin and Clonazepam are the two main supplement and medications discussed in the treatment of RBD. They both showed advantages in reducing symptoms and behaviors but were not proven to show significant results. The therapy option discussed; bed alarm therapy is also shown to reduce the number of interventions but is not proven to show significant results. It is important that future research dives deeper into finding a significant solution to treating patients diagnosed with RBD.