

Appendix A:

Scoring Periodic Limb Movements in Sleep (PLMS):

The following define a significant leg movement (LM) event:

1. The minimum duration of a LM event is 0.5 seconds
2. The maximum duration of a LM event is 10 seconds
3. The minimum amplitude of a LM event is 8 uV increase in MEG voltage above resting EMG
4. The timing of the onset of a LM event is defined as the point at which there is an 8 uV increase in EMG voltage above resting EMG
5. The timing of the ending of a LM event is defined as the start of a period lasting at least 0.5 seconds during which the MEG does not exceed 2uV above resting EMG

The following define a PLM series:

1. The minimum number of consecutive LM events needed to define a PLM series is 4 LMs
2. The minimum period length between LMs (defined as the time between onsets of consecutive LMs) to include them as part of a PLM series is 5 seconds
3. The maximum period length between LMs (defined as the time between onsets of consecutive LMs) to include them as apart of a PLM series is 90 seconds
4. Leg movements on 2 different legs separated by less than 5 seconds between movement onsets are counted as a single leg movement

Scoring PSG features of REM sleep behavior disorder (RBD): scoring was performed in accordance with the following definitions:

1. Sustained muscle activity (tonic activity) in REM Sleep: an epoch of REM sleep with at least 50% of the duration of the epoch having a chin EMG amplitude greater than the minimum amplitude demonstrated in NREM sleep.
2. Excessive transient muscle activity (phasic activity) in REM sleep: In a 30 second epoch of REM sleep divided in to 10 sequential 3 second mini epochs, at least 5 (50%) of the mini epochs contain bursts of transient muscle activity. IN RBD, excessive transient muscle activity bursts are 0.1-0.5 seconds in duration and at least 4 times as high in amplitude as the background EMG activity

The PSG characteristics of RBD were characterized by either or both of the following features:

1. Sustained muscle activity in REM sleep in the chin EMG
2. Excessive Transient muscle activity during REM in the chin or limb EMG

All zones scored were validated using video recordings taken during PSG. Routine PSG study information was also reviewed. Further scoring was in accordance with studies by Rechtschaffen & Kales which are AASM standards.