

Night-to-night variability of periodic limb movements during sleep (PLMS) in restless legs syndrome and periodic limb movement disorder: Periodicity Index versus PLMS Index

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Introduction

The number of periodic leg movements during sleep (PLMS index) shows high night-to-night variability, requiring multiple nights for its reliable estimation. It is currently not known if this is also the case for the degree of periodicity of leg movements, quantified by the periodicity index.

Objective

The objective of this study was to compare night-to-night variability of PLMS and periodicity indices in patients with restless legs syndrome (RLS) or periodic limb movement disorder (PLMD).

Methods

Eighteen idiopathic restless legs syndrome (RLS) patients and 9 PLMD subjects were recruited. Subjects underwent two consecutive full-night polysomnographic studies. Polysomnographic recordings were scored and leg movement activity analysed during sleep for the computation of the PLMS and periodicity indices.

Results

In both patient groups, the periodicity index showed a significantly lower degree of variability than that of PLMS index, being >6.5 times lower in RLS patients and 2 times lower in PLMD patients. These data support the use of the periodicity index in the evaluation of PLMS in RLS and PLMD and indicate that this parameter seems to be more stable than the widely used PLMS index which has higher night-to-night variability.