

## Restless legs syndrome in children with a history of prematurity

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**Introduction:** Little is known about which children are at increased risk for restless legs syndrome (RLS) and periodic limb movement disorder (PLMD). Polysomnographic data from the Caffeine for Apnea of Prematurity-Sleep study showed that 14% of a cohort of ex-preterm children aged 5-12 years had an elevated periodic limb movement in sleep (PLMS) index (>5/hour) but the clinical importance of this finding is unknown. We hypothesized that ex-preterm children would have a high prevalence of RLS and PLMD.

**Methods:** Subjects underwent polysomnography and caregivers completed questionnaires. A diagnosis of RLS or PLMD was established by meeting the ICSD3 criteria with positive symptoms derived from the Owens RLS questionnaire and the Pediatric Sleep Questionnaire (PSQ). Clinically available serum ferritin levels were assessed.

**Results** 5 (19.2%) of the 26 subjects with a PLMS index > 5 who completed the RLS questionnaire had RLS; 10 (7.0%) of the 143 subjects with a PLMS index < 5 had RLS ( $p=0.04$ ). 11 of the 26 subjects with an elevated PLMS index (42.3%) had PLMD. 9 subjects were referred for serum ferritin evaluation, and levels ranged from 11 to 48.9 mcg/L.

**Conclusion:** children with a history of prematurity have an increased risk of RLS and PLMD. Iron deficiency likely contributes to RLS and PLMD symptoms in this population. Clinicians evaluating ex-preterm children with sleep disturbances should evaluate for RLS and PLMD. Prospective studies including serum ferritin evaluation are needed to confirm these findings.

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