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The Relationship Between Vitamin D Status, Limb Movements, and Sleep Architecture in Children

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Vitamin D deficiency has recently been posited as an important factor in the pathogenesis of restless leg syndrome.

We evaluated the association between vitamin D deficiency and limb movements and sleep architecture in a pediatric sample.

This is a retrospective analysis of a single institution sleep program looking at all patients who underwent overnight polysomnogram and 25-OH vitamin D within 60 days of doing the sleep study between January 2015 and October 2017.

Those with sleep apnea (Central Apnea Index >5/hr or Obstructive Apnea Hypopnea Index >2/hr) were excluded.

Overall, there were a total of 83 children who qualified for inclusion. Mean age was 7.0 years (range 1–17 years).

Overall, higher Vitamin D level was significantly associated with increasing N3 sleep (r=0.267, p=0.015), but was not significantly associated with other sleep parameters including limb movements.

In multivariate regression modelling including Vitamin D and age, the association between vitamin D and N3 sleep percentage remained significant (B=0.212, SE=0.102, p=0.04).