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Lower extremity muscle recruitment pattern during sit to stand transfer in children with cerebral palsy as compared to typically developing children- a cross sectional study.

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1. **Title:** Lower extremity muscle recruitment pattern during sit to stand transfer in children with cerebral palsy as compared to typically developing children- a cross sectional study. **Authors:** K**iran P Nadgauda, Amitesh Narayan, Shreekanth D Karnad.** **Key Words:** Cerebral Palsy, Sit to Stand, Electromyography, Lower Extremity

ABSTRACT

Objective: To study analyses the difference in the lower extremity (LE) muscle recruitment pattern between children with cerebral palsy (CP) and typically developing (TD) children during STS transfer with reference to amplitude and timing of onset. **Method:** Single blinded age and gender matched experimental comparative study design. Fourty-two children (n=21 CP and n=21 TD) aged 5 to 16 years were recruited prospectively through convenient sampling. Activities of quadriceps, hamstrings, tibialis anterior and gastrocnemius muscles on both sides studied by surface electromyogram during STS transfer**. Results:** High baseline amplitude was noted in children with CP for all LE muscles. Maximum amplitude of LE muscles were higher in children with CP than TD, except for quadriceps. Timing of muscle onset was nearly double in children with CP for all 8-muscles compared to TD. **Conclusion:** Children with CP had altered LE muscle recruitment pattern with respect to baseline and maximum amplitude, and onset of muscles activity during STS task compared to TD.