

Passive range of motion and clinical cut-off point of in ankle dorsiflexion are not correlated with gross motor function in children with cerebral palsy – a cross sectional study **49.**

Helle Mätzke Rasmussen, Joachim Svensson, Maria Thorning, Niels Wisbech Pedersen, Søren Overgaard, Anders Holsgaard-Larsen

The Orthopedic Research Unit, 1) Department of Orthopedic Surgery and Traumatology, Odense University Hospital, Denmark 2) Department of Clinical Research, University of Southern Denmark, Odense, Denmark

Background: The Cerebral Palsy follow Up Program (CPOP) uses cut-off points (traffic light signals) to categorize passive range of motion (ROM) in: green, yellow and red in order to guide clinical decisions. The cut-off points are not evidence based and potential relationship with gross motor capacity and patient-reported gross motor function has never been established.

Purpose / Aim of Study: To investigate ROM and the traffic light categories for ankle dorsiflexion and their relationship with gross motor function in children with cerebral palsy (CP).

Materials and Methods: We conducted a cross-sectional study of 60 children with spastic CP at GMFCS level I-II, aged 5-9 years. ROM were measured as maximal ankle dorsiflexion with flexed and extended knee using goniometry and the categories applied using the cut-off points provided by CPOP. Furthermore 1-min walking distance (1-min walk), Gross Motor Function Measure (GMFM) and Pediatric Quality of Life Inventory Cerebral Palsy Module: movement and balance subscale (Pedsql) were collected. Correlations were investigated with Pearson correlation coefficients. Differences in the three groups based on the traffic light categories were investigated with one-way ANOVA.

Findings / Results: No significant correlation ($r^2 < 0.2$, $p > 0.05$) were documented between ROM versus 1-min walk, GMFM and Pedsql. Furthermore, the group mean values of the outcome measures in the traffic light categories did not differ.

Conclusions: Ankle dorsiflexion are not correlated with gross motor function, why the cut-off points used in CPOP are of limited clinical value in relation to gross motor capacity and patient-reported impairments in relation to movement and balance. As a consequence ROM and gross motor function may be considered as separate constructs, which may have impact on the decision-making of treatment for the patient group.

No conflicts of interest reported