

DOES RANGE OF MOTION IMPROVEMENT INCREASE FUNCTIONAL MOBILITY IN ALL CEREBRAL PALSY CHILDREN? A SINGLE CENTRE STUDY

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Introduction: The goals of surgical and rehabilitation interventions among cerebral palsy (CP) patients are to treat joint contractures, improve walking pattern thereby improving function. Despite the high number of CP patients in Malaysia, there is paucity of data of outcomes of intervention and rehabilitation management. With this in mind, we set out to discover the outcomes of surgical intervention and rehabilitation management in our centre.

Methodology: Patients with Spastic CP with Gross Motor Function Classification System (GMFCS) I-V that underwent lower limb surgical intervention in our centre from 2008-2018 were reviewed for The Spinal Alignment and Range of Motion Measure ROM subscale (SAROMM) scores and Functional Mobility Scores (FMS) 18 months after surgery. The PedsQL™ CP module were compared between the parent-proxy report and self-report at end of 18 months.

Discussion: 32 patients were included in the study with mean age of 12.28. All patients underwent muscle tendon procedures. Box plot analysis of SAROMM showed reduction of median scores at 6 & 12 months. Repeated measure ANOVA analysis showed there was a statistically significant effect of time on SAROMM scores ($p < 0.001$). FMS scores improved more among GMFCS I-III at all distances compared with GMFCS IV-V. An Intraclass Correlation Coefficient (ICC) of 0.993 with 95% confidence interval ($p < 0.001$) was found between self-report and parent-proxy report for PedsQL™ across all scales.

Conclusion: Surgical intervention and rehabilitation improves the FMS and SAROMM among GMFCS I-III but not the mobility of GMFCS IV-V despite having more improved SAROMM scores. With this study, we can conclude that surgical intervention improves the ROM and mobility of GMFCS I-III, but does not improve mobility of GMFC IV-V. The high ICC achieved in this study indicates excellent interrater reliability of self-report and parent-proxy report of PedsQL™ among Malaysian cerebral palsy patients.