

## **The Use of Suit Therapy in Childhood Cerebral Palsy, a Pilot Study**

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**Objectives:** To evaluate the effect of combining suit therapy with intensive physical therapy in children with cerebral palsy by measuring changes in gross motor function after rehabilitation.

**Design:** Pilot/feasibility study using a one-group pretest-posttest design.

**Setting:** Community pediatric rehabilitation program at North Oakland Medical Centers, in Pontiac, Michigan.

**Patients:** Sample of convenience (9 children; 5 females and 4 males), with a mean age 6.5 (SD 3.2; range of 3 to 13), and a primary diagnosis of cerebral palsy.

**Materials/Methods:** A therapy suit (a compression device for the treatment of patients with postural impairments and motor activity functional limitations utilizing multiple elastic bands to control limb position, range, muscle load and course of motion).

**Interventions:** All participants meeting criteria completed a physical rehabilitation program consisting of 10 sessions, each lasting 4-hours, conducted 5 days a week for 2 weeks, administered by trained pediatric physical therapists. The therapy protocol included intensive physical therapy while wearing the elastic band compression suit in addition to the standard intensive therapy.

**Measurements and Main Results:** A trained therapist formally assessed function using the Gross Motor Function Measure (GMFM) at intake, and again at completion of the therapy program. Our findings showed significant increases in individual patient GMFM scores (mean 7.26%; range 3.1 to 13.3%); and within each GMFM dimension scale (A-E) and overall (mean 16.56%; range 11.49 to 36.22%) ( $p < 0.05$ ). The effect sizes varied considerably among the five dimensions (.18 to .67). Dimension A produced the largest effect size.

**Conclusions:** These findings suggest that the combination of suit therapy with a short course of intensive physiotherapy for cerebral palsy (10 sessions) is as effective, as previously reported for intermittent intensive physiotherapy (30 sessions). Children with deficits in the lower functional levels may benefit most in the short term. Functional limitations may be sufficiently reduced to allow for a lesser degree of dependence. Maintenance of improved motor skills over time needs further evaluation, as does the impact of societal limitations on the wide application of this type of therapy for appropriately selected patients.

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