

Appendix A

Neurodevelopmental Treatment Protocol

The intervention used in this study consisted of direct handling techniques learned by experienced pediatric clinicians through NDT instruction. Pediatric physical, occupational and speech therapists learned the NDT techniques through continuing education courses approved by the Neurodevelopmental Treatment Association (NDTA). The majority of therapists (all but one SLP) providing intervention were NDT certified (completing 261 hours of didactics and practicum handling in the NDT/Bobath Certificate Course in the Treatment and Management of Children with Cerebral Palsy and other Neuromotor Disorders), or instructors in the pediatric certification course.

A thorough assessment was performed and ongoing with each child, and direct handling was modified throughout each session. Handling consisted of elongation activities of muscles (if needed) coupled with activation of postural muscles and graded midrange control (with muscles activated during transitional movements such as slowly moving sit to standing) during age-appropriate play and functional activities. Emphasis was on optimal skeletal alignment, base of support and center of gravity shifts while providing sensory information and activating musculature during functional activities. Children were kept motivated with age-appropriate, meaningful functional tasks (including play). Time was allotted for appropriate practice of skills and accurate feedback of results was provided.

The following personnel provided the intervention: 1. therapists with extensive continuing education training in NDTA certified courses; 2. certified pediatric NDT instructors (teaching certified NDT courses); 3. certified pediatric NDT therapists (with at

least 2 years experience and completion of a 261 hour continuing education course consisting of didactics, labs, and handling practicums using NDT techniques) (Curriculum of Basic NDT Pediatric Certificate course; and NDT/Bobath Pediatric Minimal Core Course Content provided at www.ndta.org).

A total of 9 physical therapists (PTs), 6 occupational therapists (OTs) and 4 speech and language pathologists (SLPs) participated in the intensive program. Five PTs, 5 OTs and 4 SLPs participated in the 1-week intensive program and 4 PTs, 1 OT and 2 of the SLPs participated in the 2-week session. Individual intervention (there was no “group” intervention sessions) was provided to all participants with collaboration between all disciplines providing intervention for each individual child. The majority of intervention was provided by PTs (due to more PTs than OTs and SLPs participating in the intensive program). All children received physical therapy, 14 of 16 children received occupational therapy, and all but 3 children received speech therapy. Co-intervention was provided with all disciplines with a minimum 1-hour duration. Children had individualized intervention schedules which varied from day to day of the intensive program and depended on individualized needs; for example one child received 2 hours of co-treatment from the PT and OT in the morning and afternoon on 1 day, and 2 hours of co-treatment from the PT and SLP the next day; while another child received 1 hour of physical therapy, 1 hour of occupational therapy, and a speech and language pathologist provided co-treatment with each physical and occupational therapy intervention.