

CP skier can, according to his own pace become confident and fully independent on the slope to enjoy skiing with ease.

## MIS

### 127. Measurement of functional skills in children with cerebral palsy

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This workshop focuses on functional assessment and the evaluation of functional therapy for children with cerebral palsy. Functional assessment evaluates the performance of daily living tasks of a person. In terms of the ICIDH(-2) a functional approach of assessment and therapy addresses the disabilities (activities) of a person and not the impairments (impaired structure or function).

*Laila de Groot* provides a theoretical framework for this approach. The starting point of her contribution is in the Dynamic Systems Theory. It is stated that all biological systems show a certain amount of chaotic behaviour, which in time find an equilibrium or order. In the development of posture and motility of young infants this concept is of the utmost importance to understand later behaviour. In early development motor behaviour may look chaotic, but in time it will result in a great variability of movement, tailored to the need of that particular infant in that particular moment of development. Under less favourable (biological or social) circumstances the infant will have far less degrees of freedom to build up the variability needed and stereotyped posture and motility will replace variability and hamper development in general. For paediatric physiotherapists this concept will be of great importance when planning therapy. The goals to aim at should be realistic. Some times it may be useful to use stereotyped movement to get function, even at the cost of variability. Therapy planning should depend on the time window in the development of each individual child and its environment.

*Marjolijn Ketelaar* describes her research into the effects of functional physiotherapy in children with cerebral palsy. The development of functional motor skills of a group of children receiving functional therapy are compared to a reference group that continued their previous physical therapy regime, i.e. NDT. There were the following assessments: 6, 12, and 18 months after the pretest. The Gross Motor Function Measure (GMFM) and the Paediatric Evaluation of Disability Inventory (PEDI) were used to assess functional motor abilities of the children. The results show that there were no differences between the two groups on gross motor function (GMFM) in a standardized environ-

ment. However, when functional skills in daily situation were examined (PEDI), the children in the functional therapy group improved more than the children in the reference group on the functional skills and caregiver assistance scales in both self-care and mobility.

*Renate Siebes* gives a review and analysis of the efficacy of therapeutic intervention programmes for children with cerebral palsy. In particular, this review focuses on the outcomes of functional oriented intervention strategies. Both the content of this kind of programmes and the methodological quality of the intervention studies is established. The effects of these programmes in comparison with already existing therapeutic regimes is discussed.

The next part of the workshop focuses at the research into the reliability and validity of the GMFM and the PEDI.

*Els van Petegem* gives an account of a study into the reliability and the utility of the GMFM. The GMFM is a criterion-referenced measure, in particular constructed to evaluate motor skill development in children with cerebral palsy. The measure establishes changes over time in functional gross motor skills. The GMFM can be of great value for the evaluation of paediatric physiotherapy. The way the GMFM is executed is demonstrated (video). Also the way the training in the GMFM is organized in The Netherlands is reported.

*Jeltje Wassenberg* discusses a research into the adaptation and psychometric quality of a Dutch version of the PEDI. The PEDI measures functional skills of (disabled) children aged between  $\frac{1}{2}$  and  $7\frac{1}{2}$  years. The PEDI measures both capability and performance of functional activities in three content domains: self-care, mobility and social functioning. The Functional Skills Scale is used to establish capability, and the Caregiver Assistance Scale is a measure of the extent of help the caregiver provides in typical daily situations. In addition, the Modifications Scale is a measure of environmental modifications and equipment used by the child in daily activities. Both capability and performance are established by parent report. The PEDI can also be administered by judgement of clinicians who are familiar with the child. Examples of new constructed scales are given.

Finally, the role of motivation in the learning of new skills, in particular as this is elaborated by means of the concept of perceived competence, is shortly indicated. *Adri Vermeer* gives an account of research into the construction of two scales to measure perceived physical, cognitive and social competence in children with cerebral palsy. The first scale is a pictorial scale for children 4–9 years of age, the second one is a questionnaire for children 9–16 years of age. The use of these scales will be demonstrated.

Didactically, the workshop consists of short presentations, demonstrations of the measurements to be discussed, and discussions about the clinical use of the measurements.