Measurement tools: new opportunities for children with cerebral palsy

Commentary

Eliasson et al. are to be warmly congratulated on the publication of their excellent paper 'The Manual Ability Classification System (MACS) for children with cerebral palsy: scale development and evidence of validity and reliability' in this issue of *Developmental Medicine and Child Neurology*.[1]

The development and subsequent availability of the Gross Motor Function Classification System (GMFCS)[2] represents one of the most significant advances both for research and clinical practice over the past few decades. Clinicians can now communicate clearly with each other about individual children's level of gross motor function. The reliability of family report for the GMFCS has been demonstrated.[3] In addition, the GMFCS is proving extremely valuable in research, having now been used in multiple studies in many different countries. In an excellent review of the GMFCS undertaken in 2004,[4] it was noted that there were already more than 100 citations across the spectrum of health care professions and physical management interventions, and this number is likely to have grown considerably since that time.

The MACS will be another major step forward in our quest to improve outcomes for children with cerebral palsy (CP). It will enable classification of hand function, i.e. how children use their hands when handling objects in daily activities, in a similar manner to the GMFCS. This has not previously been possible. Similar to the GMFCS, the MACS will enable families, clinicians, policy makers, and researchers to communicate clearly with each other and will facilitate goal setting in clinical practice. Researchers will be able to match children according to MACS level, to evaluate the various interventions designed to improve hand function. As a result, progress will be made in determining what works best for young people with CP and their families.

The Growth Motor Curves[5] enable prediction about the pattern of gross motor function over time according to GMFCS level. They are extensively used for prognostic counselling with parents and are of great assistance in planning clinical management. It is to be hoped that researchers will undertake similar longitudinal studies of hand function and create curves to describe the pattern of development over time.

The emphasis on describing what the children can do rather than their limitations is a significant aspect of the MACS. Eliasson et al. report that several parents mentioned the importance of highlighting the children's ability to use their hands. In any measure or test development it is vital that the measure is acceptable and easily understood by parents, and the MACS fulfils this requirement.

It is very pleasing that the MACS has already been translated into nine languages and can be easily accessed from a user-friendly website (www.macs.nu).

The next challenge is to develop a classification system for the oromotor difficulties that confront so many children with CP: the feeding issues that often cause distressing dysphagia and require gastrostomy placement; the considerable expressive language problems that affect communication; and the poor saliva control that may impede successful integration. This complete triad may occur in some children with CP, but in others only one or two of these problems are present.

Hand function is crucial for the achievement of independence and for participation in school and the community. The publication of this classification system is a major milestone. Let us hope that it is further developed and used to ensure that children with CP receive optimal treatment over the years that lie ahead.

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References

1. A-C Eliasson, L Krumlinde-Sundholm, B Rösblad, E Beckung, M Arner, A-M Öhrvall, P Rosenbaum. (2006) The Manual Ability Classification System (MACS) for children with cerebral palsy: scale development and evidence of validity and reliability. *Dev Med Child Neurol* **48:** 549–554.
2. Palisano R, Rosenbaum P, Walter S, Russell D, Wood E, Galuppi B. (1997) Development and reliability of a system to classify gross motor function in children with cerebral palsy. *Dev Med Child Neurol* **39:** 214–223.
3. Morris C, Galuppi B, Rosenbaum P. (2004) Reliability of family report for the Gross Motor Function Classification System. *Dev Med Child Neurol* **46:** 455–460.
4. Morris C, Bartlett D. (2004) Gross Motor Function Classification System: impact and utility. *Dev Med Child Neurol* **46:** 60–65.
5. Rosenbaum P, Walter S, Hanna S, Palisano R, Russell D, Raina P, Wood E, Bartlett D, Galuppi B. (2002) Prognosis for gross motor function in cerebral palsy: creation of motor development curves. *JAMA* **288:** 1357–1363.