

# Evidence-based physical therapy for the management of children with cerebral palsy

Physical therapy is considered to be an important part of the management of cerebral palsy (CP); but what type of therapy, at what intensity, and for how long? These are questions which are not easily answered. Much valid criticism is directed towards the so-called 'named' therapy approaches because of the lack of a sound scientific basis and proof of efficacy. There is certainly little or no evidence to support the effectiveness of any particular approach, nor is there evidence to demonstrate superiority of one approach over another. Increasingly, therapists are being urged to adopt evidence-based intervention,<sup>1</sup> but is there adequate, robust evidence available to enable them to do this? And how can available evidence be translated into effective practice? Certainly there are pockets of evidence to support the use of various forgotten and emerging modalities, such as muscle strengthening, constraint-induced movement therapy, and task-specific learning. This is encouraging; but such evidence cannot be generalized to all children with CP, particularly those who are classified as level IV and V on the Gross Motor Function Classification System,<sup>2</sup> or to those who reside in disadvantaged environments. How can therapy for children with a multifaceted and complex disorder such as CP reach the stage where it is based on sound evidence?

In their study in this issue (p 808), Schenker et al. have highlighted the importance of considering the child's ability to perform activities and to participate in daily life, and also emphasize the influence of environmental factors. For their study they used the School Function Assessment<sup>3</sup> to measure activity and participation. These components are also integral to the International Classification of Functioning, Disability and Health (ICF).<sup>4</sup> Despite its growing acceptance, use of this model by therapists in clinical practice still appears to be limited. The ICF framework provides a means of focussing intervention at an appropriate level to promote participation and well-being, and has the potential to provide a focus for research. The ICF provides a framework that enables many entry points into the management of the person with disability rather than beginning at the impairment level, which is the route that therapy has traditionally taken for many years.<sup>5</sup> There is a growing awareness that outcomes of therapy should have an impact on the individual at the level of societal participation, but this is rarely a consideration in intervention studies.<sup>6</sup> While some studies have shown that working at an impairment level can improve activity performance,<sup>7</sup> intervention at the activity level of walking, such as treadmill training, rather than at an impairment level, may not only be more meaningful but also more effective.<sup>8</sup> Another approach to improving mobility performance could be to change the environment, thereby increasing the options for participation, which may also result in improvement at the impairment level. Thus, the ICF can provide a multilevel framework for therapy, but also has the potential to create an approach to research that will expand the therapeutic

evidence base. Whilst the ICF model can provide a framework for clinical reasoning, i.e. it can help the therapist to decide 'what' to do, it cannot tell the therapist 'how' to do it in order to provide the most appropriate intervention in the light of emerging evidence. How can therapists translate the results from experimental trials into clinical practice to provide effective evidence-based intervention? Therapists can acquaint themselves with current literature and emerging ideas. But they also need a way to gain practical skills in applying these new – and probably some not so new – methods of intervention, such as muscle strengthening and task-specific training. It seems a worldwide problem that few possibilities exist for therapists to acquire clinical skills other than 'on the job', to attend neurodevelopmental (NDT/Bobath) or other 'named-approach' courses, or to participate in the limited variety of short course options. It is hoped that the increasing availability of specialist post-graduate degrees and short courses will gradually ensure that all paediatric physical therapists are given the appropriate clinical skills to put research findings into practice. Higher degree programmes already give therapists the opportunity to participate in ongoing research and to design and implement their own research projects. Such research will expand the therapeutic evidence base and can motivate therapists to participate in further research. It may take some time, but there is a growing confidence that sound, evidence-based physical therapy can, and so will, become a reality.

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