Two cycles of review were completed. The first revie\...dike in the literature related to entry-level practice in the United States.

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NDT Theory Has Been Updated

Mathiowetz and Haugen, authors of “Motor Behavior Research: Implications for Therapeutic Approaches to Central Nervous System Dysfunction” (AJOT, 48, August 1994, pp. 733–741) implied that practicing therapists keep up with current research on motor behavior as this research provides a foundation for treatment. The authors would do well to follow their own advice and familiarize themselves with current Neurodevelopmental Treatment (NDT) theory and practice: the only Bobath/NDT literature referenced in their article was from 1978. As therapists just completing an 8-week pediatric NDT course taught by Judith C. Bierman, we feel obliged to correct the misinterpretation and update the readers of AJOT regarding current NDT theory and practice.

NDT no longer uses a reflex-hierarchical model to explain how treatment influences motor behavior. The NDT instructors group has reevaluated and redefined NDT goals in light of current motor behavior research. In addition, all 8-week pediatric NDT courses require a qualified guest lecturer to present the neuroscience foundation portion of the curriculum. We spent at least 2 days on motor control and motor learning, which included both historical perspectives and current theories. Our course emphasized the systems approach, from current theories of motor behavior to evaluation and treatment. We were taught that evaluation begins with an assessment of functional skills in the environment regularly encountered by the child. Treatment is directed toward the acquisition of functional skills that will assist the child in mastering his or her environment. We learned that treatment must not be passive and must involve the child and family in activities that are meaningful and important to them. The systems approach was a strong theme throughout the course, reinforced by all guest instructors and pointed out in treatment practices as well.

We agree with Mathiowetz and Haugen that it is important to examine current literature. An article on NDT that contains more current information than the Bobath article cited by Mathiowetz and Haugen is Lois Bly’s “A Historical and Current View of the Basis of NDT” (Pediatric Physical Therapy, 3(3), 1991, pp. 131–135).

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Authors’ Response

We are pleased that the neurodevelopmental treatment (NDT) instructors group has reexamined the theoretical basis of NDT in light of contemporary motor behavior research. For the most part, we agree with Bly’s (1991) reinterpretation of the NDT approach, especially the increased emphasis on the active involvement of client in treatment and on the use of functional activities. However, we disagree with her use of motor programs as an explanation of how movement is controlled. The motor program concept is used in hierarchical models of motor control and is not consistent with the systems model of motor control that we proposed.

If in fact the NDT approach has adopted a systems model of motor control, then we would question the appropriateness of the name NDT. In a systems model, the central nervous system (CNS) is one system among many that explains motor behavior. It is not the primary system. In addition, Bly (1991) suggested that age-appropriate functional activities, rather than the normal developmental sequence, should guide treatment. If the CNS and development are not the focus of treatment, why is the approach still called NDT?

In addition, Bly’s interpretation of NDT is in sharp contrast to Bobath’s (1978, 1990) explanations, which are clearly based on a reflex-hierarchical model of motor control. In our experience, Bobath’s explanation of NDT is predominant among NDT therapists in clinical practice. Thus, we chose to use Bobath’s (1978) explanation of the NDT approach in our article, rather than another person’s interpretation of their approach.

Finally, if there has been a shift from reflex-hierarchical models to a systems model of motor control as the basis of NDT, is that simply an evolution in thinking or is it a major shift? Some in the motor behavior literature (Abernethy & Sparrow, 1992) would describe this as a paradigm shift. If this is true, then major changes might be expected in approaches to CNS dysfunction as well.

A more detailed explanation of our thinking on this topic will be presented in the next edition of Monthly’s Occupational Therapy for Physical Dysfunction. We invite further dialogue on these issues.

References


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