The Role of the Pediatrician in Prescribing Therapy Services for Children With Motor Disabilities

Committee on Children With Disabilities

ABSTRACT. Pediatricians are often called upon to prescribe physical and occupational therapy service for children with motor disabilities. This statement defines the context in which rehabilitation therapies should be prescribed, emphasizing the identification and enhancement of the child's function and abilities. The statement encourages the pediatrician to work with teams including the parents, child, teachers, therapists, and other physicians.

Pediatricians commonly are asked to evaluate children with motor disabilities and to write prescriptions for physical and occupational therapy. Although many states require a physician's prescription for such services, many physicians have limited formal education about these therapeutic interventions.[1]

The spectrum of motor impairments affecting function in children and adolescents includes acquired spinal injury, traumatic brain injury, muscular dystrophy, arthrogryposis, spina bifida, and cerebral palsy. Many children with these conditions will benefit from physical or occupational therapy.

Although physical and occupational therapy are often components of the treatment programs for children with disabilities, no current evidence indicates that these therapies directly improve the specific motor impairment of the child.[2–6] Rather, therapists, working with the family, child, and teacher, promote a positive functional adaptation to the disability in the context of the child's developmental progress. In the last decade, some treatment programs for children with cerebral palsy and other motor disabilities have been carefully evaluated using meta-analysis, functional measures, and single-subject design methods.[7–12] Clear documentation of efficacy has continued to be elusive. This problem may in part reflect difficult issues of methodology associated with the study of therapeutic efficacy in children because of their changing maturation and the need to identify and measure appropriate outcome criteria.[2–4] A meta-analysis of 31 studies of early intervention found higher performance scores for children receiving services compared with a control group, with greater effects on overall developmental quotients than on specific measures of motor function. In one important study, physical therapy alone was found to be less effective than the incorporation of developmentally appropriate play and learning skills for motor-impaired children younger than 3 years.[12]

Given the multiple needs of the child with a disability, one therapeutic discipline alone rarely minimizes the effects of the disability. Well-controlled scientific studies with well-defined functional outcome measurements are therefore necessary to clarify the efficacy of physical and occupational therapy interventions for specific pediatric conditions. Issues such as the frequency and intensity of therapy services, the relationship to assistive technology, and rehabilitative and medical versus developmental models of therapy all require further investigation.

The pediatrician needs to understand the role of physical and occupational therapists in the overall treatment of children with disabilities and the therapeutic modalities that may affect functioning and otherwise help these children.[13–16] Physical therapists focus on gross motor skills, including sitting; sitting to standing in preparation for transfers; walking with or without assistive devices and braces; wheelchair propulsion; transfers out of the wheelchair (to a desk, toilet, or bath); negotiation of ramps, curbs, and elevators; and problem-solving skills for accessibility of public buildings. Physical therapists often have responsibilities for ordering equipment and assistive devices.[17–19] Occupational therapists focus on fine motor and visual motor skills that improve the integrated activities of daily living, such as dressing, grooming, toileting, eating, bathing, and writing.[20,21] Occupational therapy services may also include training in school readiness skills and the identification of techniques to help children compensate for specific deficits. Occupational therapists also provide expert consultation on certain technologies, such as environmental control units, augmentative communication systems, and adaptive toys.[20] If the child has motor problems severe enough to interfere with self-care or communication, the therapist may recommend a program to help the child compensate for the disability or adapt to it. Despite anecdotal reports of beneficial results in selected cases, however, neurophysiologic retraining programs that purport to alter the underlying neurologic disorder have little effect on functional skills and are inappropriate for children with motor disabilities.[5,6,22] Participation in sports can increase their endurance, self-esteem, and strength in a peer setting.[23]

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The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

The pediatrician's primary responsibility in writing a prescription for therapy is to provide an accurate diagnosis. Although often the cause of the disability is not apparent, the physician must provide an accurate description of the medical condition and whether the child has a transient, static, or progressive impairment. In addition to the primary neuromotor disorder, all potential associated problems, such as learning disabilities, mental retardation, sensory impairment, speech disorders, emotional difficulties, and seizure disorders, must be identified, and treatment must be recommended. Children with medical conditions that may be adversely affected by movement or other specific activities should have those conditions identified as precautions. Occupational and physical therapists cannot make determinations on drug treatment and the children's medical risks during therapy. For example, weight-lifting activity during therapy may be contraindicated in some children with motor disabilities receiving long-term prednisone therapy because of the increased risk of fracture(s). Medical precautions may reflect cardiovascular parameters, seizure precautions, or range-of-motion precautions.

The prescription for therapy should designate its goals. Plans for physical and occupational therapy do not depend solely on the diagnosis or age of the patient. They are most appropriate when developed to address specific functional goals in individual patients. The pediatrician should work with the family, child, therapist, school personnel, developmental diagnostic team, and other physicians to establish realistic functional goals.[24,25] The pediatrician can help families develop expectations of the goals of treatment and help them understand that treatment mainly assists in their adaptation to a condition rather than changing the underlying neuromuscular problem. Pediatricians should be able to contact and use expert consultation as in any other area of medicine. Helpful resources include local and regional diagnostic teams, early intervention and developmental evaluation programs, developmental pediatricians, pediatric physiatrists, and pediatric neurologists.

Therapy prescriptions should contain the child's diagnosis, precautions, type of therapy, frequency of therapy, anticipated goals, and duration of therapy. Two examples of prescriptions include:

1. Diagnosis: cerebral palsy, spastic quadriplegia, severe dysphagia
   Precautions: risk of aspiration with seizure
   Type and frequency of therapy: speech therapy 2x/week × 6 mos
   Improve oral motor stimulation and provide a desensitization home program
   Goal: improve oral phase of swallowing to increase oral intake.
2. Diagnosis: complete C-7 quadriplegia
   Precautions: stable spine
   Type and frequency of therapy: physical therapy 2x/week × 6 mos
   Increased range of motion, increased strength in available muscles, increased trunk control
   Goal: transfers without sliding board independently, between level surfaces, and propels wheelchair in household.

Successful programs require regular communication among the therapists, educators, and prescribing physicians, with periodic reevaluation to assess the achievement of identified goals, to direct therapy toward new objectives, and to determine when therapy is no longer warranted.[26] Therapies that are individually tailored to meet the child's functional needs should be integrated with the educational and medical treatment plans with consideration of the needs of parents and siblings.

RECOMMENDATIONS

1. Pediatricians should be aware of all professionals and therapeutic modalities that have an impact on children with disabilities.
2. Pediatricians should be informed of and participate in setting functional goals for therapy.
3. Pediatricians should be involved with the ongoing process of evaluating therapy programs for children with disabilities.
4. Pediatricians should be aware of and use community resources, such as pediatric physiatry (rehabilitation medicine), local or regional diagnostic teams, and developmental pediatrics, to obtain expert consultation on therapeutic programs.

REFERENCES

1. Campbell SK, Anderson J, Gardner G. Physicians' beliefs in the efficacy of physical therapy in the management of cerebral palsy. *Pediatr Phys Ther*. 1990;2:169–173

2. Tirosh E, Rabino S. Physiotherapy for children with cerebral palsy: evidence for its efficacy. *Am J Dis Child*. 1989;143:522–525
3. Ottenbacher KJ. Efficacy of physical therapy: rate of motor development in children with cerebral palsy. *Pediatr Phys Ther*. 1990;2:131–134
4. Simeonsson RJ, Cooper DH, Scheiner AP. A review and analysis of the effectiveness of early intervention programs. *Pediatrics*. 1982;69:635–641
5. The Doman-Delacato treatment of neurologically handicapped children. *Pediatrics*. 1982;70:810–812
6. Carte E, Morrison D, Sublett J, Vemura A, Setrakian W. Sensory integration therapy: a trial of a specific neurodevelopmental therapy for the remediation of learning disabilities. *J Dev Behav Pediatr*. 1984;5:189–184
7. Harris SR. Efficacy of early intervention in pediatric rehabilitation: a decade of evaluation and review. *Phys Med Rehab Clin North Am*. 1991; 2:725–742
8. Harris SR. Effects of neurodevelopmental therapy on motor performance of infants with Down's syndrome. *Dev Med Child Neurol*. 1981; 23:477–483
9. Olney SJ. Efficacy of physical therapy in improving mechanical and metabolic efficiency of movement in cerebral palsy. *Pediatr Phys Ther*. 1990;2:145–154
10. Ottenbacher KJ, Biocca Z, DeCremer G, et al. Quantitative analysis of the effectiveness of physical therapy: emphasis on the neurodevelopmental treatment approach. *Phys Ther*. 1986;66:1095–1101
11. Shonkoff JP, Hauser-Cram P. Early intervention for disabled infants and their families: a quantitative analysis. *Pediatrics*. 1987;80:650–658
12. Palmer FB, Shapiro BK, Wachtel RC, et al. The effects of physical therapy on cerebral palsy: a controlled trial in infants with spastic diplegia. *N Engl J Med*. 1988;318:803–808
13. Consensus statements. *Pediatr Phys Ther*. 1990;2:175–176
14. Ottenbacher KJ, Peterson P. The efficacy of early intervention programs for children with organic impairment: a quantitative review. *Eval Program Plan*. 1985;8:135–146
15. Harris SR. Early intervention: does developmental therapy make a difference? *Topics Early Child Special Educ*. 1988;4:20–32
16. Piper MC. Efficacy of physical therapy: rate of motor development in children with cerebral palsy. *Pediatr Phys Ther*. 1990;2:126–130
17. Butler C. Effects of powered mobility on self-initiated behaviors of very young children with locomotor disability. *Dev Med Child Neurol*. 1986; 28:325–332
18. Levangie P, Guihan MF, Meyer P, Stuhr K. Effect of altering handled position of a rolling walker on gait in children with cerebral palsy. *Phys Ther*. 1989;69:130–134
19. Taylor SJ. Evaluating the client with physical disabilities for wheelchair seating. *Am J Occup Ther*. 1987;41:711–716
20. Kibele A. Occupational therapy's role in improving the quality of life for persons with cerebral palsy. *Am J Occup Ther*. 1989;43:371–377
21. McCuaig M, Frank G. The able self: adaptive patterns and choices in independent living for a person with cerebral palsy. *Am J Occup Ther*. 1991;45:224–234
22. Ottenbacher K. Sensory integration therapy affect or effect? *Am J Occup Ther*. 1982;36:571–578
23. Johnstone K, Perrin J. Sports for the handicapped child. *Phys Med Rehab*. 1991;5:331–350
24. American Academy of Pediatrics, Committee on Children With Disabilities. The pediatrician's role in the development and implementation of an individual education plan. *Pediatrics*. 1987;80:750–751
25. American Academy of Pediatrics, Committee on Children With Disabilities. Pediatrician's role in the development of an individual education plan (IEP) and/or an individual family service plan (IFSP). *Pediatrics*. 1992;89:340–342
26. Levine M, Kliebhan L. Communication between physician and physical and occupational therapists: a neurodevelopmentally based prescription. *Pediatrics*. 1981;68:208–214

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