

## CLINICAL REPORT

Guidance for the Clinician in Rendering Pediatric Care

Linda J. Michaud, MD, and the Committee on Children With Disabilities

## Prescribing Therapy Services for Children With Motor Disabilities

**ABSTRACT.** Pediatricians often are called on to prescribe physical, occupational, and speech-language therapy services for children with motor disabilities. This report defines the context in which rehabilitation therapies should be prescribed, emphasizing the evaluation and enhancement of the child's function and abilities and participation in age-appropriate life roles. The report encourages pediatricians to work with teams including the parents, child, teachers, therapists, and other physicians to ensure that their patients receive appropriate therapy services. *Pediatrics* 2004;113:1836–1838; *children with motor disabilities, physical therapy, occupational therapy, speech-language therapy.*

## BACKGROUND

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

The spectrum of motor impairments affecting function in children and adolescents is wide and comprises many congenital and acquired conditions, primarily involving the neurologic and musculoskeletal systems, including but not limited to cerebral palsy, traumatic brain injury, myelomeningocele, spinal cord injury, neuromuscular disease, juvenile rheumatoid arthritis, arthrogryposis, and limb deficiencies. These conditions are associated with motor impairments including muscle weakness, abnormal muscle tone, decreased joint range of motion, and decreased balance and coordination. There are variations in severity within each of these conditions. Many children with impairments attributable to these conditions will have some degree of disability that may limit their participation in age-appropriate activities at home, in school, and in the community and should benefit from physical, occupational, and/or speech-language therapy services.

The pediatrician needs to understand the role of physical, occupational, and speech-language therapists in the overall treatment of children with motor disabilities and the therapeutic interventions that may improve function and participation.<sup>2,3</sup> If the

child has motor problems severe enough to interfere with mobility, self-care, or communication, therapists may provide a program to help the child ameliorate, compensate for, or adapt to the impairment or disability. Physical, occupational, and speech-language therapists, working with the family, child, physician, and teacher, promote a positive functional adaptation to impairment or disability in the context of the child's developmental progress.

Physical therapists focus on gross motor skills and functional mobility, including positioning; sitting; transitional movement such as sitting to standing; walking with or without assistive devices (eg, walkers, crutches) and orthoses (braces) or prostheses (artificial limbs); wheelchair propulsion; transfers between the wheelchair and other surfaces such as a desk chair, toilet, or bath; negotiation of stairs, ramps, curbs, and elevators; and problem-solving skills for accessibility of public buildings. Physical therapists often have responsibilities for procuring adaptive equipment related to ambulation, positioning, and mobility.<sup>4–6</sup>

Occupational therapists focus on fine motor, visual-motor, and sensory processing skills needed for basic activities of daily living such as eating, dressing, grooming, toileting, bathing, and written communication (handwriting, keyboard skills).<sup>7</sup> Occupational therapy services may include training in school-related skills and strategies to help children compensate for specific deficits.<sup>7</sup>

Speech-language pathologists address speech, language, cognitive-communication, and swallowing skills in children with disabilities.<sup>8</sup> Speech therapy is the therapy most commonly prescribed by pediatricians.

The services that can be provided by physical and occupational therapists and speech-language pathologists overlap. For example, a physical or occupational therapist can address motor delay or dysfunction in the very young child. Depending on the community, occupational therapists or speech-language pathologists may address deficits in oral motor skills associated with feeding dysfunction related to motor disability. Occupational therapists and/or speech-language pathologists provide expert consultation related to adaptive equipment, environmental modifications, and assistive technology devices such as environmental control units, augmentative communication systems, adapted computers, and adaptive toys.<sup>6</sup>

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

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## EVALUATING THE EVIDENCE

The therapeutic methods, frequency and duration of service, setting in which the service is delivered, and service delivery system vary.<sup>9</sup> Evaluating the efficacy and effectiveness of therapy for motor disability is difficult, because treatment is not a standardized, readily quantifiable process that can be prescribed in discrete, consistent units. Individualized therapy programs vary in many parameters and incorporate subjective as well as objective elements. Clear documentation of efficacy related to the variable parameters of therapy continues to be elusive. This problem may in part reflect difficult methodologic issues including the measurement of treatment-related change on a background of developmental maturation, the establishment of appropriate outcome criteria, heterogeneity of the populations involved, and the complex nature of the interventions.<sup>10,11</sup>

A recent review of the evidence to support the effectiveness of neurodevelopmental treatment for children with cerebral palsy indicates that this popular method of intervention does not confer an advantage over the alternatives with which it has been compared in altering abnormal motor responses, slowing or preventing contractures, or facilitating more normal motor development or functional motor activities, nor does more intensive neurodevelopmental treatment result in greater benefit.<sup>12</sup> Physical therapy alone was found in 1 well-designed study to be less effective in improving motor development after 1 year than the therapy incorporating developmentally appropriate play and learning skills for children younger than 3 years with motor impairment.<sup>13</sup>

Improvement in motor function is more likely to occur when the goals of therapy are specific and measurable<sup>14</sup> and established in partnership with the child's parents and other caregivers. Intensive amounts of physical therapy may confer no advantage over routine amounts of therapy,<sup>15</sup> and long-term therapy may confer no advantage over short-term therapy. Provision of a home exercise program, with instruction of family members and caregivers in therapeutic exercises and age-appropriate activities to meet the child's goals, is generally indicated. This program can include recommendation of participation in sports to increase endurance, strength, and self-esteem in a natural setting with peers.<sup>16</sup> Aquatic therapy, hippotherapy (horseback-riding therapy), and participation in karate, gymnastics, and dance classes in integrated or special classes also can be considered to meet the child's therapeutic goals. Parent and caregiver education by all therapists is critical in effective partnerships with families for implementation of therapy programs.

Some programs such as patterning have little effect on functional skills and are inappropriate for children with motor disabilities.<sup>17</sup> Scientific legitimacy has also not been established for sensory integration intervention for children with motor disabilities.<sup>18</sup>

Prescribing therapy services for children with mo-

tor disabilities clearly cannot be based entirely on sound scientific evidence. As the knowledge base is expanded related to the effectiveness of therapy interventions, evidence-based practice described as using the best available evidence, along with clinical judgment, and taking into consideration the priorities and values of the individual patient and family in a shared decision-making process, as outlined by the Institute of Medicine, is advised.<sup>19</sup>

## SERVICE DELIVERY

Therapies for a child with motor impairment are required to be provided by the school if the disability interferes with the educational process.<sup>20</sup> Recently, managed health care has made it more difficult for children with special needs to receive therapy services outside of school, with insurance companies denying services for children who attend school, maintaining that therapy is mandated at school and is partially funded with education and third-party monies.<sup>9</sup> Therapy services at school for students who are eligible for Medicaid and whose disabilities are medically based can be reimbursed by Medicaid if the disability has an adverse effect on the child's ability to benefit from the educational program.<sup>9</sup> Services also may be provided in environments other than the hospital or school, as appropriate for the child's individual circumstances; such other environments include child care, home, or job settings.

## THE PEDIATRICIAN'S ROLE

The pediatrician's responsibility in writing a prescription for therapy includes providing an accurate diagnosis when possible. When the exact cause of the disability is not apparent, the physician must provide an accurate description of the medical condition and note whether the child has a transient, static, or progressive impairment. In addition to the primary motor disorder, all potential associated problems such as learning disabilities, mental retardation, sensory impairment, speech disorders, emotional difficulties, and seizure disorders must be identified, and a care plan must be recommended. There are some children with special needs whose medical conditions may be affected adversely by movement or other specific therapeutic activities; therapists and caregivers should be advised to take appropriate precautions with these children.

The physician's prescription for therapy should contain, in addition to the child's diagnosis: age; precautions; type, frequency, and duration of therapy; and designated goals. Goals for physical, occupational, and speech-language therapy do not depend solely on the diagnosis or age of the child, and they are most appropriate when they address the functional capabilities of the individual child and are relevant to the child's age-appropriate life roles (school, play, work).<sup>9</sup> The pediatrician should work with the family, child, therapists, school personnel, developmental diagnostic or rehabilitation team, and other physicians to establish realistic functional goals.<sup>20</sup> The pediatrician can assist families in identifying the short- and long-term goals of treatment, establishing realistic expectations of therapy out-

comes, and understanding that therapy will usually help the child adapt to the condition but not change the underlying neuromuscular problem. Pediatricians should be encouraged to seek and use expert consultation as in any other area of medicine. Helpful resources may include local and regional diagnostic and intervention teams, early intervention and developmental evaluation programs, developmental pediatricians, pediatric physiatrists, pediatric neurologists, pediatric orthopedists, and orthotists.

Regular communication among parents and other caregivers, therapists, educators, and prescribing physicians should be ongoing, with periodic reevaluations to assess the achievement of identified goals, to direct therapy toward new objectives, and to determine when therapy is no longer warranted.<sup>21</sup> Changes in the child's status (eg, surgical intervention, school-to-work transition warranting assistive technology intervention) may indicate resumption of specific short-term, goal-directed services.

### SUMMARY

Successful therapy programs are individually tailored to meet the child's functional needs and should be comprehensive, coordinated, and integrated with educational and medical treatment plans, with consideration of the needs of parents and siblings. This can be facilitated by primary care pediatricians and tertiary care centers working cooperatively to provide care coordination in the context of a medical home.<sup>22,23</sup>

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*Pediatrics* 2004;113;1836

DOI: 10.1542/peds.113.6.1836

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