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## COMMENTARY

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# Intensity of Therapy Services: What are the Considerations?

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**ABSTRACT.** Research on intensity of therapy services is limited and perspectives often vary considerably among families, therapists, administrators, policy makers, and health insurers. In this commentary, the authors share their perspectives on intensity of physical therapy and/or occupational therapy services for children with developmental conditions. Five considerations are discussed: episode of therapy, readiness for activity and participation, method of service delivery, the distinction between intensity of therapy and practice of activity in natural environments, and the link between skill level and method of service delivery. We conclude that for children with developmental considerations, method of service delivery and intensity of therapy may differ for each episode of

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109

therapy based on contextual factors including child and family priorities and goals. In most situations, more than one method of service delivery can and should occur simultaneously.

**KEYWORDS.** Intensity of therapy services, frequency of therapy services, method of service delivery, physical therapy, occupational therapy, children, developmental condition

To say that intensity of physical therapy and occupational therapy services for children and youth is a controversial issue is an understatement. Intensity refers to how often, how long, and the duration of an episode of physical therapy or occupational therapy. Intensity of therapy pertains to all practice settings and methods of service delivery for children and youth with developmental conditions. Yet, research evidence is limited and difficult to generalize. Perspectives on intensity of therapy often vary considerably among families, therapists, administrators, policy makers, and health insurers. Availability, accessibility, and the cost of therapy services factor into decisions on intensity of therapy. When asked for evidence and rationale to support recommendations, how can physical therapists and occupational therapists address such a complex issue?

Last year, Susan Murr and I presented a point-counterpoint debate on Methods of Service Delivery and Intensity of Physical Therapy for Children with Cerebral Palsy at the annual meeting of the American Academy of Cerebral Palsy and Developmental Medicine. Rather than take sides and each debate a position that would not generalize to all children and all practice settings, we decided to present a longitudinal case report. We presented the same child, but at different ages. Recommendations for method of service delivery and intensity of therapy differed based on contextual factors including child and family priorities and goals. Afterwards, several therapists commented that the presentation encouraged them to reflect on issues relevant to their practice settings. In this commentary, we will share five of the considerations presented at the Academy meeting.

### ***CONSIDERATION 1: EPISODE OF THERAPY***

An *episode of care* (Lamberts & Hofmans-Okkes, 1996) reflects the perspective that individuals with lifelong conditions receive health services on multiple occasions over their life span. Each episode is for a defined period and specific need. Children with lifelong conditions, such as cerebral

palsy, developmental coordination disorder, and pervasive developmental disorder, may benefit from several episodes of therapy during childhood and adolescence. Outcomes for each episode should be meaningful to the child and family. The concept of an episode of therapy is in contrast to the perspective that children should continuously receive therapy services based on having a lifelong developmental or health condition.

### ***CONSIDERATION 2: READINESS FOR ACTIVITY AND PARTICIPATION***

A primary consideration for initiating an episode of therapy is readiness to achieve an outcome for activity and/or participation within a specified time. Readiness pertains to the concepts of sensitive period and dynamic systems. As part of the theory that motor development is largely dependent on maturation of the nervous system, McGraw (1945) proposed that during sensitive periods, practice and experience enhance acquisition of motor skills. A concept of dynamic systems theory is that when one or more systems become unstable, motor behavior emerges from the interaction of systems in a task-specific context (Heriza, 1991). We propose that readiness for activity and participation not only applies to body functions and structures but also to the child's motivation and interests, family systems, and relevant aspects of the child's physical, social, and attitudinal environment.

### ***CONSIDERATION 3: METHOD OF SERVICE DELIVERY***

Research has primarily addressed intensity of direct individual therapy services. Other methods of service delivery that have received less attention include small group, large group, consultation, and monitoring (Effgen, 2006). Consultation involves providing others (i.e., child, family, instructional aide, coach) information and instruction. Monitoring involves periodic assessment to prevent problems that might adversely affect activity and participation. In Consideration 5, we present our thoughts on how the child's skill level relates to method of service delivery.

### ***CONSIDERATION 4: DISTINCTION BETWEEN INTENSITY OF THERAPY AND PRACTICE OF ACTIVITY IN NATURAL ENVIRONMENTS***

The amount of time spent by the child practicing an activity in natural environments is an important consideration for learning. The more narrow

focus on the relationship between intensity of therapy and intervention outcomes most likely reflects the cost of therapy services and lack of awareness of the importance of person–environment interaction for motor learning. The principle of specificity of learning states that practice should approximate the target skill and environmental conditions in which the skill is performed (Schmidt & Wrisberg, 2004). We concur with Diane Damiano (2006) who states that therapists “need to identify more ways to help children incorporate ‘activity, activity, activity’ into their lifestyles . . . and that activity can and should occur in natural, everyday settings whenever possible.” Joanne Valvano (2004) has incorporated learning principles into a model that integrates activity- and impairment-focused interventions for children with neurological conditions. Activity-focused intervention involves organizing the task and environment to meet a child’s individual learning challenges and enable practice and repetition of functional actions.

An example illustrates that the amount of time children spend in therapy is small in comparison to opportunities for practice in natural environments. A child who receives 1 hr/week of physical therapy/occupational therapy for 3 months spends 12 hr practicing under the supervision of a therapist. If the child also spends 10 min/day for 3 months practicing the activity in natural settings, the total amount of time is 105 hr. In situations in which a child is receiving both physical therapy and occupational therapy or services in more than one setting (e.g., school and clinic), communication and coordination are essential to optimize opportunities for practice in natural environments. We advocate for therapists to communicate and coordinate services with physical educators, coaches, and instructors to optimize learning.

#### **CONSIDERATION 5: LINK BETWEEN SKILL LEVEL AND METHOD OF SERVICE DELIVERY**

In their textbook *Applied Behavior Analysis for Teachers*, Alberto and Troutman (1999) present a hierarchy of behavioral response competency that we have found useful for decisions on method of service delivery. In this commentary, we use the term *skill level* rather than behavioral response competency. Table 1 summarizes four skill levels and considerations for methods of service delivery that represent personal opinion. *Acquisition* refers to performance of an activity that the child previously could not do. Direct individual therapy is often the preferred method of service delivery for acquisition. Direct therapy includes procedural interventions that require the skill of a therapist and may not be safe or feasible to incorporate

TABLE 1. Considerations for Method of Service Delivery Based on the Child's Skill Level (Adapted from Alberto &amp; Troutman, 1999)

Skill Level	Description	Considerations for Method of Service Delivery
Acquisition	Ability to perform a newly learned response to a certain criterion	Direct-individual Small group
Fluency	The rate at which a newly acquired response is performed	Small group/large group consultation
Maintenance	Ability to perform a response over time without re-teaching	Consultation monitoring
Generalization	Ability to perform the behavior in untrained situations	Consultation

into daily activities and routines. During periods of readiness, a child may benefit from an intense episode of direct individual therapy. Similarly, a child who has recently had a surgical or pharmacological intervention that has changed one or more body systems may benefit from an intense episode of direct individual therapy. An episode of direct individual therapy also may be indicated when a child experiences secondary impairments in body functions and structures that adversely affect activity and participation.

Practice and repetition are necessary for *fluency*. Group therapy in which peers provide motivation and opportunities for observational learning appears well suited for fluency. A child who walks with limitations may benefit from group therapy to develop the speed, endurance, and coordination necessary to walk in the community. Consultation can promote fluency by facilitating more frequent and varied opportunities for practice in natural environments. *Maintenance* refers to a child's ability to perform an activity and participate successfully without the need for ongoing therapy. The aim of monitoring is to maintain skill level by identification of problems before they adversely affect the child's activity and participation. Over time, children with developmental conditions may experience changes in body functions and structures. Task demands and environmental conditions also change over time. Consultation is a recommendation for interventions that include assistive technology, task adaptations, activity accommodations, or environmental modifications. *Generalization* is the highest skill level. Children not only perform activities and participate in natural environments but also adapt and transfer performance to novel situations. Consultation is a method of service delivery that is well suited to address problems in generalization. For example, a child is capable of

running, changing directions, and kicking a ball, but has difficulty playing in a soccer game. Consultation with the child and soccer coach at a game may identify factors that limit the child's generalization of skills to a game situation, such as being distracted by crowd noise and the actions of other players.

The five considerations represent our perspectives and by no means are the only issues pertinent to intensity of therapy services. In most situations, more than one method of service delivery can and should occur simultaneously. Therapists providing direct individual services consult others on activity and participation in natural environments and assist children and families to identify physical, recreational, and skill-based activities available at school or in the community. We have had discussions with therapists who advocate for short intense episodes of therapy during periods of readiness followed by consultation or monitoring. Participation in school and community activities that the child enjoys is recommended not only for fluency, maintenance, and generalization but also to provide social interactions and encourage development of life skills such as planning, decision making, goal setting, problem solving, and self-advocacy.

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