Development of Guidelines for Determining Frequency of Therapy Services in a Pediatric Medical Setting

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Purpose: The purpose of this article is to describe guidelines for frequency of therapy services that were developed to help physical therapists and occupational therapists determine appropriate utilization of therapy services in a pediatric medical setting. Description: The guidelines were developed for use by physical and occupational therapists when treating inpatients and outpatients at a large urban Midwest pediatric teaching hospital. Factors for consideration when determining frequency of therapy were adapted from the existing literature. Four modes of service delivery were developed: intensive (3 to 11 times a week), weekly or bimonthly (1 to 2 times a week to every other week), periodic (monthly or less often but at regularly scheduled intervals), and consultative (episodic or as needed). Descriptions are provided in a table format with factors to consider when making treatment frequency decisions. Importance: These guidelines have been helpful to therapists in this medical setting when communicating therapy needs and goals to families and other professionals. (Pediatr Phys Ther 2008;20:194–198) Key words: pediatrics, physical therapy, practice guidelines, practice patterns/hospital, professional practice, service delivery, standards

PROBLEM

In this large urban Midwest pediatric teaching hospital Occupational Therapy (OT) and Physical Therapy (PT) services are delivered to children as inpatients and outpatients. Therapists in this hospital serve children of all ages and with a variety of diagnoses. Yet, there is little evidence to guide our decision making with regard to therapy frequency. It has been our experience that parents, therapists, and physicians may possess the belief that a child should receive therapy services for as long as the family wants them. It also has been our experience that children with chronic disabilities continue to see a therapist with varying frequencies that have not been well documented or related to effectiveness. The frequency of therapy and when to discontinue therapy may not be agreed on by different team members. In addition, at this pediatric hospital parents and physicians may complain when OT or PT services are discontinued or decreased. The purpose of this article is to describe the guidelines we developed to assist physical therapists and occupational therapists when determining frequency of therapy services in a pediatric teaching hospital.

A thorough literature review and a review of other professional documents yielded only 6 resources that addressed the topic of service delivery in the pediatric setting for physical therapists and occupational therapists. In 1994, Montgomery1 published factors to consider when making decisions about frequency and duration of pediatric therapy services. These included cognitive ability, motivational level, physical environment, caregiver availability, diagnosis and prognosis, child’s age, and functional goals. These items were listed and it is unknown whether they are of equal importance. Missing also was an objective way to measure the factors and their effect on making frequency of therapy decisions.

In 1998, the Oregon Health Sciences University published guidelines2 specific for medically based outpatient PT and OT for children with special health needs. Their
guidelines stated that medically based outpatient therapy services will be periodic and episodic to address specific functional problems related to emerging issues of health, growth, development, environment, and family context. They also indicated there will be periods when the child will be in a steady state and not require therapy services. Although a suggested continuum of frequency was provided, Oregon's guidelines did not provide specific guidelines or recommended frequencies of therapy services for children who are hospital inpatients.

The Iowa Department of Education described services for OT and PT services in the schools taking into account the students' potential to benefit from therapeutic intervention, whether children are at a critical period of skill acquisition or regression related to their development or disability, how much of the program requires the expertise of a therapist when deciding amount of service, and the degree to which their motor problems interfere with their educational goals. Iowa's guidelines described a continuum of direct, integrated, or consultative services for the school environment. Iowa's modes of service delivery were not specific to a pediatric hospital setting. However, the concepts of a critical period of skill acquisition and how much of the intervention requires expertise of a therapist add important components for consideration in an pediatric medical setting where both inpatients and outpatients are served.

Long et al. stated that PT services in the outpatient environment are usually short term while recovering from illness or injury. For children with chronic disabilities treatment is transitional before community services are used. Yet, Long et al did not discuss whether children with long-term needs should continue to see therapists in an outpatient medical setting and at what frequency.

Recently, Effgen stated that direct delivery usually occurs in the medical setting, but she did not address guidelines for which frequency of service should be provided. Lastly, the Guide to Physical Therapist Practice stated that frequency and duration of therapy will vary greatly and is based on a variety of factors that are listed for each practice pattern. For example, for children in Practice Pattern 5C-Impaired Motor Function and Sensory Integrity Associated with Nonprogressive Disorders of the Central Nervous System—Congenital Origin or Acquired in Infancy or Childhood, cognitive maturation and periods of rapid growth may also influence frequency and duration of therapy services.

In a related manner, the Guide to OT Practice recognized that an OT intervention plan typically includes the type, amount, frequency, and duration of therapy; yet, neither ranges nor guidelines for these factors were given. Similarly, the OT Practice Framework defined OT intervention approaches as create/promote, establish/restore, maintain, modify, and prevent but did not suggest frequency guidelines for delivery of these different approaches.

None of the findings in the literature could be applied across the continuum of care common to this pediatric hospital serving both inpatients and outpatients. Hence, a solution was sought to provide recommendations for frequency modes of service delivery in this large urban teaching pediatric hospital.

THE SOLUTION

This hospital serves children on inpatient acute care and rehabilitation units, in addition to serving outpatients at 9 locations in and around our metropolitan area. In 2006, a total of 71,313 outpatient visits and 28,636 inpatient visits were logged by 123 OTs and PTs employed as clinical staff.

Within the hospital's Division of OT and PT, the Leadership Team is responsible for coordinating strategies, objectives and priorities for the division, and encouraging teamwork to ensure quality services for patients and families. The Leadership Team consists of the senior clinical director, division director, coordinator of clinical operations, education coordinator, performance improvement coordinator, and an Occupational Therapist II and a Physical Therapist II. The Leadership Team felt there was a need to improve care by developing guidelines for the therapist when deciding the appropriate frequency for service delivery. This group met weekly over several months to cull the literature for published guidelines. Because of the absence of specific guidelines in the literature related to all aspects of a pediatric medical setting, the team established modes of frequency of care specific to the facility's needs.

These guidelines were established for several purposes. The primary purpose was to address our professional duty to plan for discharge throughout the intervention process and to terminate services when appropriate. Second, the guidelines were intended to assist in educating the patient and family regarding changes they may experience in frequency of therapy as the patient's needs change. Furthermore, the guidelines were intended to decrease unwarranted variation in care for patients with similar diagnoses and therapy needs, and to provide therapists with a tool to use in discussions with patients, families, and physicians about how decisions are made regarding frequency of care. Throughout, it was assumed that transition through various intervention frequencies was appropriate to achieve optimal outcomes.

Patient care plans were based on the OT and PT evaluation findings. The frequency guidelines were then developed from factors found in the literature and grouped as follows: first, potential to participate and benefit from the therapy process which takes into account diagnosis, age, prognosis, motivation, and functional goals; second, presence of a critical period for skill acquisition or potential for regression; third, amount of therapist expertise needed; and fourth, the level of support present to assist the patient in attaining goals, which also takes into account family context. The factors selected for inclusion were not intended to be all inclusive, rather they were deemed most appropriate and helpful for this pediatric hospital setting. The subjective nature of the factors was acknowledged throughout the process.
### TABLE 1
Cincinnati Children’s Hospital Medical Center, Division of Occupational Therapy, and Physical Therapy Guidelines for Frequency of Therapy Services in a Pediatric Medical Setting

<table>
<thead>
<tr>
<th>Factors</th>
<th>Intensive Frequency 3–11×/wk</th>
<th>Weekly/Bimonthly 1–2×/wk or Every Other Week</th>
<th>Periodic Monthly or Less Often at Regularly Scheduled Intervals</th>
<th>Consultative Episodic or as Needed</th>
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<tr>
<td>Potential to participate and benefit from the therapy process (takes into consideration age, diagnosis, prognosis, and motivation)</td>
<td>Patient has potential for rapid progress; or potential for rapid decline or loss of functional skills due to current medical condition</td>
<td>Patient demonstrates continuous progress toward established goals</td>
<td>Patient demonstrates slow rate of attainment of goals in identified areas and/or does not regress for reasons unrelated to their disease process</td>
<td>Patient/caregiver is able to meet new challenges associated with a change in life stage or medical condition. PT/OT uses clinical decision making and problem solving skills to identify problems, recommend solutions in response to new challenges or specific issues identified by the family</td>
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<tr>
<td>Critical period for skill acquisition or for potential regression related to development or medical condition</td>
<td>Extremely critical period</td>
<td>Critical Period</td>
<td>Not in a critical period and/or episodically critical period related to development, change in life stage or medical condition</td>
<td>Specific challenges identified by patient and/or caregiver, or have a need for specific adaptive equipment</td>
</tr>
<tr>
<td>Amount of clinical decision making and problem solving needed from a licensed therapist</td>
<td>Requires the clinical skills and problem solving of a licensed therapist; a limited part of therapy program can be safely performed by patient and/or caregiver</td>
<td>Requires the clinical skills and problem solving of a licensed therapist for a significant part of the therapeutic program; some exercises/activities can be safely performed by patient and/or caregiver</td>
<td>Requires the clinical skills and problem solving of a therapist to periodically reassess condition and update home program; home program can be safely performed by patient and/or caregiver</td>
<td>Home Program can be carried out safely by patient and/or caregiver. Clinical skills and problem solving of a licensed therapist needed for specific challenges identified by the family or patient.</td>
</tr>
<tr>
<td>Level of support present to assist the patient in attaining goals (ie, ability to attend appointments, compliance with therapy recommendations, etc)</td>
<td>High level of support present to assist the patient in attaining goals</td>
<td>High level of support present to assist the patient in attaining goals</td>
<td>Level of support is adequate to maintain skills and/or various factors present that impede patient’s ability to make steady progress toward goals</td>
<td>Level of support is adequate to allow patient to meet new challenges associated with a change in life stage or medical condition, with consultative services of therapist</td>
</tr>
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Modified from Iowa Department of Education, Des Moines, IA, February 2001.

### DESCRIPTION OF THE FREQUENCY MODES

Four modes of intervention frequency were developed and are currently being applied across the continuum of care from the time the child is an inpatient at this facility through the outpatient course of care. These 4 modes and factors to consider in determining appropriate frequency are listed in Table 1. In all modes the therapist involves the family so that therapy can be carried out in other more natural settings.

#### The Intensive Frequency Mode

The intensive frequency mode varies based on the individual needs of each patient and ranges from 3 to 11 visits per week. Use of the intensive frequency mode is considered appropriate for children who have a condition that is changing rapidly, need frequent modification in their plan of care, and require a high frequency of intervention for a limited duration to achieve a new skill or recover function lost due to surgery, illness, or trauma. The intensive frequency mode is appropriate for inpatients as well as some outpatients. For example, some of the inpatient groups that are served by the intensive treatment mode are orthopedic, hematology/oncology, and rehabilitation. Outpatients that are served would be those children recently discharged from the inpatient rehabilitation unit who continue to demonstrate more rapid changes in function.

#### The Weekly or Bimonthly Frequency Mode

The weekly or bimonthly frequency mode is for children who demonstrate continuous progress toward established goals; the frequency ranges from 1 to 2 times a week
to every other week. These children do not have a condition that is changing rapidly. The children require problem solving and clinical decision making skills of a physical therapist or occupational therapist for regular visits for a limited time. In our setting, most often children served in this frequency mode would be outpatients. However, inpatients that are on the transitional care unit awaiting discharge are also served weekly or with bimonthly sessions. These children are frequently on ventilators and have complex medical needs and discharge training and planning can take long periods of time.

The Periodic Frequency Mode

The periodic frequency mode includes monthly therapy visits or regularly scheduled intervals between visits. This mode is most often used for outpatients and is appropriate for children who cannot yet participate in or tolerate more frequent therapy sessions. These children might have therapy needs that are reassessed and addressed on a periodic basis as part of comprehensive management in a specialty clinic; or weekly or biweekly therapy is not a high priority due to other family issues or priorities. The therapist typically provides updates to a home program in the periodic frequency mode.

The Consultative Frequency Mode

The consultative frequency mode is episodic or “as necessary.” The guide to physical therapist practice defines consultation as the rendering of professional or expert opinion by a physical therapist and usually does not involve direct intervention. The guide to OT practice acknowledges that consultation may be a method of service delivery.

Consultative services are often needed when the child improves or regresses, when the child is ready to perform a new task as a result of changes in age, development, environment, or when new assistive technology becomes available. The child who is doing well in the community may receive community services, yet require occasional consultation with a therapist in this medical setting to ensure gains continue or to address emerging concerns.

Transition and Termination of Services

Transition involves the process of preparing for or facilitating change, such as from one frequency mode of treatment to another. The guidelines presented may make transitions smoother from one frequency mode of service to another. Transitioning services from weekly to periodic to consultative may be appropriate steps as part of a plan of care before discharge or discontinuation. Discharge is the process of ending therapy services that have been provided during a single episode of care when the anticipated goals and outcomes have been achieved. Discontinuation is the process of ending therapy services that did not result in the desired outcome and can occur when the patient/family declines continued intervention, the patient is unable to continue to progress toward goals, or when the physical therapist determines the patient will no longer benefit from therapy. Similarly, for OT services discontinuation is recommended when there is lack of objective evidence of progress or it is determined the child is not benefiting from the OT services provided.

IMPLEMENTATION IN PHYSICAL AND OT

Intensive education was provided by the Leadership Team about these guidelines and frequency modes to all occupational and physical therapists at this hospital before implementation. Education included instruction on the guidelines as well as training in how to best communicate this information to parents and referral sources. A family brochure was developed to describe the guidelines and various frequency modes of service. All families currently receive this brochure at the initiation of therapy services. At the same time, the therapist reviews the recommended therapy frequency with the family. The brochure is revisited with the family as necessary when transitioning care from one frequency to another. This discussion prepares families for changes in frequency and intensity of therapy services for their child that are likely to occur. This assists families to better understand the reasons different frequencies of therapy may be appropriate for their child at different times throughout the course of care. These discussions foster the collaborative relationship between the therapist and family, which supports optimal patient outcomes.

Case Example

A 7-year-old boy was admitted to this facility after being struck by a moving vehicle. His injuries included a severe traumatic brain injury, facial fracture, and right tibial fracture. His Glasgow Coma Score on admission was 3 and magnetic resonance imaging showed multiple focal shear injuries and bilateral frontal and temporal lobe contusions. Initially he received OT and PT services daily Monday through Saturday under the intensive frequency mode while in the intensive care unit before being transferred to the inpatient rehabilitation unit. The goal of therapy while in the intensive care unit was to provide positioning to prevent loss of functional mobility and range of motion because of his medical condition. Once stable he was transferred to the inpatient rehabilitation unit where he continued under the intensive frequency mode and received PT and OT each 2 times a day and once on Saturday while he demonstrated more rapid progress. On admission to the inpatient rehabilitation unit he was dependent for mobility, transfers, and self-care. He was beginning to open his eyes and localize to people’s voices in his room. He was on the inpatient rehabilitation unit approximately 3 months. At discharge, he was demonstrating fair sitting ability and required some assistance for stand pivot transfers and activities of daily living. He was able to follow simple commands and used some spontaneous words. He was discharged to home with nursing services 7 days/week and outpatient OT and PT. He continued under the intensive frequency mode receiving OT and PT 3 times a week as an outpatient while he was still demonstrating rapid
progress. At approximately 1 year after his injury, he transitioned to the weekly frequency mode where he received both OT and PT once each week. He was ambulating short distances with assistance. He continued to show progress toward goals but not as rapidly, and the goals of therapy were to transition some of the program to the caregiver and to assist with his programming needs in his school. After 3 years of receiving OT and PT services under the weekly frequency mode, the therapists felt that he was no longer making measurable gains, in part due to significant behavior issues that affected his ability to participate in therapy. The family was offered and denied assistance from a neuropsychologist and community groups to assist with the behavioral issues. At the time the therapists thought he was unable to benefit from their services and wanted to decrease his therapy frequency. The team met to discuss the frequency guidelines with the family and the referring physician. Also, the guide to OT practice and the guide to physical therapist practice were shared that address transitions, discharge, and discontinuation of therapy services. Using the frequency guidelines and the above-mentioned references the team was able to come to an agreement to change modes of frequency. At that time the child transitioned to the periodic frequency mode under which he was seen first monthly and then every 2 months to address equipment needs, home programming, and integration of therapy activities into his daily routine. After 2 years, when his family sought assistance with his behavior and it was thought he could benefit, he was transitioned to the weekly frequency mode of PT to work on a trial of power mobility and weekly OT to work on increasing his independence with self-care. Although this case does not cover all the potential transitions to and from modes of service, it hopes to provide one example of how the guidelines can be used.

CONCLUSION

The guidelines and frequency modes have been shared locally and nationally with peers at hospital sponsored continuing education conferences. Managers of other pediatric hospitals may find these guidelines helpful to physical therapists and occupational therapist in their

setting. Complaints regarding change in therapy frequency from parents and physicians may decrease if these guidelines are clearly communicated when services are initiated. This information could be shared with payers to assist them in understanding service delivery in a specific pediatric medical setting. Future work may describe utilization patterns using these guidelines for frequency of care for different practice patterns. Ultimately, it would be helpful to determine which factors are most important in deciding frequency of therapy, how to measure these factors, and which frequency is needed to obtain optimal outcomes in children served by occupational and physical therapists in this pediatric hospital setting. This information would be valuable in understanding how children respond to different frequencies of service so that managers can better plan resource allocation and track resource utilization and assess outcomes in this pediatric teaching hospital.

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REFERENCES