Play in Children with Cerebral Palsy: Doing With—Not Doing To

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Several years ago a therapist treated a 3-year-old girl, Sandra, in whom hypotonic cerebral palsy had been diagnosed. Sandra was barely able to maintain her head against gravity, was unable to coordinate reach and grasp, and did not communicate her needs other than by blinking her eyes and making sounds. She liked to participate in baking cookies, was fond of Barbie dolls, and enjoyed the interaction with other children, but she did not enjoy puzzles or any motor activity she was asked to perform during the course of treatment. Sandra demonstrated her dislike by closing her eyes or pretending to be unable to hold her head up.

Treating Sandra was a challenge. Her nontestable cognitive abilities appeared to be significantly higher than her motor skills, so she was somewhat able to control her environment by opening and closing her eyes to express interest. When motivated, she participated in the treatment session by being alert. When the activity was not appealing to her, she closed her eyes or leaned her head against the table. It took the therapist a long time to figure out that physical fatigue was not the main reason for lack of participation. At that point the therapist decided that having a successful session would require careful observation of the activities during which Sandra appeared alert and attending.

During one of the treatment sessions the therapist noticed that Sandra appeared interested in a girl her own age, the sibling of another child who was receiving treatment at the same time. In her hope to actively involve Sandra, the therapist included this little girl in the treatment session. The sibling carried her Barbie dolls into the treatment room, and the therapist, following Sandra’s sudden interest, decided to incorporate the dolls and the other little girl into a tea party. The session went well. The children later played simple board games, made a picture, and played with cars. The therapist attended to Sandra’s tendency to withdraw from an activity as an indicator of her intrinsic motivation. She also looked for other activities that could be enjoyable, not necessarily activities chosen to address the child’s multiple limitations.

When the therapist left that facility, Sandra’s mother thanked her, adding that during her treatment sessions she “did with” rather than “did to” Sandra, and that that difference made the experience meaningful for the child. The therapist thought about the mother’s words and wondered whether, in reality, she “did with” all the children she treated or whether the desperation of not being able to have Sandra participate in the treatment prompted her to move in that direction. She decided that entering into play with children regardless of their diagnosis was the key and that “doing with” was what she needed to do with all her clients.

Although this story is years old, it captures the pivotal role of intrinsic motivation and enjoyment during the intervention and in the life of individuals with physical disabilities. Current trends in rehabilitation emphasize the importance of satisfaction, well-being, and participation in society as important goals of the intervention process; therefore the role of intrinsic motivation, enjoyment, and active play has become salient. Occupational therapy’s focus on intrinsic motivation and play is important not only in the context of the child’s present situation, but also as a vehicle to help develop leisure skills that last throughout life. The recent literature on leisure emphasizes play and leisure as a resource in transcending negative life experiences and contributing to the ability to manage stress, increase self-concept and self-esteem, enhance...
social relationships, and transform (Blanche, 1999; Iwatsuki, 2001, 2003; Kleiber, Hutchinson, & Williams, 2002; Specht, King, Brown, & Foris, 2002; Trenberth & Dewe, 2002). Because children with cerebral palsy may have decreased self-esteem and increased social isolation (Magill-Evans & Restall, 1991; Manuel, Balkrishnan, Camacho, Smith, & Koman, 2003), developing play and leisure skills early in life may have a later effect on their social and emotional well-being.

Prevailing views of cerebral palsy (CP) portray the deficit as a sensorimotor disorder that affects the child’s interactions with the environment, including full participation in society. However, CP, as well as other physical disabilities, also affects the child’s social-emotional development and the family’s well-being. Although these issues are related to the physical limitations accompanying CP, they have an important effect later in life on functional activity and engagement in the community. Success in life for individuals with CP is related to psychosocial factors that include others’ belief in them, their belief in their own capabilities, and a sense of belonging when others accept them (King, Cathers, Polgar, MacKinnon, & Havens, 2000).

The nature of CP restricts play and overall development in two ways. Reduced interactions affect the use of play as a context for learning and for practicing adaptive behaviors, and limited ability to enter into play restricts the experience of play as a spontaneous, intrinsically motivated, joyous activity that may lead to an increased sense of satisfaction and well-being.

This lesson emphasizes the need to incorporate play into the intervention process and into the lives of children with CP so they can develop a sense of mastery that leads to increased satisfaction and well-being. It stresses the importance of play as a context for learning, an intrinsically rewarding experience, and a source for social-emotional benefits. The first part of the lesson addresses the limitations of CP and its impact on play, and the second part discusses ways to incorporate play into the treatment session and the life of the child. Examples from treatment sessions are used to illustrate each concept. Because play is a spontaneous, intrinsically motivated activity, most successful events described in this lesson were not planned but rather occurred “accidentally” during a treatment session. The successful resolution of the event, however, depended on the therapist’s ability first to recognize the potential of that activity, then to follow the child’s lead, and last to trust his or her skills to handle the process while suspending the consequences of not following the original plan for the time being. In other words, it required the therapist to enter into play “with” the child.

**CHARACTERISTICS OF PLAY**

Play is described in different ways. The most frequently cited views of play describe it as an activity that is intrinsically motivated and flexible (Bruner, 1972), enjoyable (Piaget, 1962), arousing (Ellis, 1973), active, and spontaneous, and during which reality might be temporarily suspended (Singer & Singer, 1977). During the performance of daily occupations, elements of play are intertwined with functional tasks. For an activity to be considered play, it must have some of the characteristics just mentioned. The literature on play often attempts to make a distinction between play and work or play and drudgery. Drudgery, defined as “the enforced engagement in distasteful physical or mental effort to obtain the means of survival” (Pugmire-Stoy, 1992, p. 4), is considered the opposite of play. An activity is experienced as approaching play if it contains a greater share of play characteristics and less of drudgery.

For the child with CP, play and therapy are sometimes mutually exclusive activities. Rast (1986) stated, “In the therapeutic setting, play often becomes a tool used to work toward a goal, despite the fact that the goal-oriented, externally controlled aspects of the therapy situation conflict with the essence of play itself” (p. 30). Pugmire-Stoy (1992) reinforced this point by writing that some of the “so-called ‘play’” (p. 4) presented to handicapped children is closer to drudgery. Therefore, including the essence of play into the session can be a challenge. As clinicians, therapists tend to use play as a motivator or a context for learning adaptive skills; however, they need to recognize the value of play as a context for fun as much as a context for learning. Only by understanding this context for fun will they be able to promote the child’s intrinsic motivation, spontaneity, and feeling of being able to actively direct her or his own actions and have mastery over the environment. Thus a whole new dimension and potential can be added to the therapeutic process and the life of the child with CP.

Play can be summarized as having three roles in the therapy for a child with physical or cognitive impairment. The first role of play is as an important childhood occupation that provides context for learning and adaptation (Bruner, 1972; Bundy, 1992; Munoz, 1986; Reilly, 1974; Robinson, 1977). The literature that uses this view of play often emphasizes the value of assessing developmental levels of play because this provides a window into the child’s level of skill development (Casby, 1992; D’Eugenio, 1986; Fewell & Glick, 1993). This role of play is viewed as important because play serves a function of preparation for adult performance.

The second role of play described in the occupational therapy literature is as a reward or motivator for the child to interact with the environment and thus reach treatment objectives. This view of play often describes the use of appropriate toys, activities, and games to encourage active participation, as when a neurodevelopmental treatment (NDT) approach is employed in the treatment of CP (Boehme, 1987; Rast, 1986). Both the first and second views of play regard it as a means to an end or as an...
experience that serves a purpose: in the first view play is seen as preparing the child for adult work performance, and in the second view play has the immediate purpose of motivating the child to interact within the treatment session. Positioning during play (Diamant, 1992; Finnie, 1975) and adapting toys for the child (Batty, 1989; Langley, 1990) can be considered part of these traditions. In general, these traditional approaches to play in the child with CP fail to explore fully the inherent worth of play and instead reinforce its role in the acquisition of functional skills.

More recent literature challenges the initial emphasis placed on play as a vehicle for learning skills for future performance (Caldwell, 1986) and explores a third role of play by emphasizing the basic characteristics that define the quality of the play experience as an end in itself (Blanche, 2002; Bundy, 1993). Although researchers view play as an occupation that is not exclusively at the service of learning skills or motivating clients, practitioners do not appear to see its value beyond these goals. Couch (1998) explored the role of play in the practice of 224 pediatric occupational therapists and concluded that although they included play as motivator and reinforcer, the focus was not necessarily on developing play skills or engaging in play. In other words, play is still a vehicle for attaining functional skills.

Bundy (1993) described a play-nonplay continuum based on the individual’s perception of control, source of motivation, and suspension of reality and urged therapists using a sensory integration approach to evaluate each activity in reference to this continuum. Similarly, activities should be assessed for their potential for play when other approaches (such as NDT) are used in the treatment of a child with CP. An awareness of the basic characteristics of play ensures a better use of play as a context for the acquisition of treatment goals. Fostering these play characteristics in the child with CP is a challenge, however, and thus is seldom observed in treatment.

In an attempt to increase awareness of the importance of play in occupational therapy, Blanche (2002) summarized play as a process-oriented occupation that includes certain characteristics: Play is spontaneous, exciting, energy producing or expending, physically and mentally active, relaxing or somewhat stressful, pleasurable, and considered nonsensational. It may include creativity, imagination, and a sense of freedom; may not have a clear purpose; and is performed for oneself. The most important characteristic is the pleasure derived from the process of engaging in the activity rather than the pleasure derived from the product of the activity (Blanche, 1999, 2002). An activity is not considered “play” or “not play” but is analyzed as a process-oriented activity that has more or fewer of the characteristics of play. Therefore, during the intervention an activity that is joyful, spontaneous, exciting, and active has many of the characteristics of play even if it is not imaginative, creative, or relaxing. Analysis of play in this form allows the therapist to include elements of play even when the therapeutic occupation would not traditionally be considered play. In using this approach to play, a therapist does not have to design an activity as “play or no play” but does have to design it to allow characteristics of play to be present and thus contribute to development of the child’s play skills.

Play takes many forms, and the characteristics of play present themselves differently among individuals. Some of the process-oriented experiences associated with play are restoration, ludos (nonserious behaviors such as teasing and joking), increased self-awareness, mastery, adventure, and creativity.

This lesson proposes that the purpose of incorporating play into treatment lies not only in its role in fostering the acquisition of functional skills, but also in its role as an enriching experience in its own right. The role of play in the individual’s development of a sense of mastery over the environment has been identified in children without disabilities, as well as in children with CP (Bruner, 1972; Rast, 1986); this increased perception of the self as capable of mastering the environment stems from the pleasure, flexibility, spontaneity, and intrinsic motivation to participate in the decision-making process that are promoted by play. Recent literature emphasizes the importance of a sense of well-being, satisfaction, and increased active participation in society. The inclusion of play with all or some of its characteristics is pivotal in the attainment of these goals. This view of play incorporates play in the treatment session in the context of fun, as well as a context of learning, and includes all treatment activities.

Fostering play in the child with CP involves many factors. First, it requires an understanding of the child’s limitations in movement, sensation-perception, and cognition. Second, it demands awareness of the limitations imposed on the child by the physical environment and the adult’s predisposition to play. Third, it calls for understanding of the fundamental characteristics of the play experience and the use of activities that may lead to it. The impact of these areas on play is described in the following section. Therapists need to be aware that, regardless of the nature and extent of the limitations of children with CP, they often spontaneously rise above these to seek ways to engage in play.

LIMITATIONS IN CHILDREN WITH CEREBRAL PALSY

The multiple disabilities that accompany CP interfere differentially with the child’s participation in everyday tasks such as self-care, schoolwork, and play. Play as a context for learning and as a joyful activity is limited in children with CP. As a context for learning, play is constrained primarily by the child’s physical challenges. As an enjoyable, spontaneous, intrinsically motivated activity, play is limited not only by the disability, but also by the restraints imposed
by those surrounding the child. These limitations imposed by people and the environment are often more restrictive than the child’s physical handicaps. Although the child is frequently able to engage in spontaneous playful interaction that does not require use of the less developed skills, the people in the child’s environment often unconsciously interfere with the expressions of these behaviors. Both the inherent and the environmental limitations are described fully in the following subsections.

Limitations in Movement

The movement limitations in children with CP have been extensively described (Bly, 1983; Bobath & Bobath, 1975). The severity of these movement deficits has an impact on play in two ways. First, it affects the child’s ability to actively access and explore the environment; second, once the child finds something that interests him or her, the movement deficits limit the potential to enter spontaneously into active play. These two factors impair the child’s sense of mastery over the world. Children with severe movement disabilities have great difficulty engaging in activities for their sensorimotor pleasure. Since this is the first expression of play observed in the child (Piaget, 1962), reduced exposure to this form of play may, in turn, further restrict the child’s development of motor coordination, as well as perceptual and cognitive development. Because play is an arena that leads to mastery (Bruner, 1972; White, 1959), the inability to enter fully into play early in life may affect the child’s perception of having control over the environment and hence the development of intrinsic motivation. Simply stated, these children are used to “being done to” rather than “doing with” and may tend to perceive themselves as spectators rather than actors.

Older children who have movement deficits but no severe limitations in cognitive development are often able to enter into other forms of play through social interactions, fantasy play, and humor. They may use their communication skills to initiate contact with others and feel that they have an impact on the environment. The play of children with less severe movement disorders is often affected more by perceptual and cognitive deficits than by the movement deficit per se. Although they may be able to ambulate and hence increase their accessibility to play materials, perceptual and cognitive limitations may confine their engagement in play. It is important when evaluating the play of these children to identify each limitation’s impact on the experience of play.

Sensory Processing Limitations

Sensory and motor deficits presented by children with CP have been often viewed as interrelated (Fetters, 1991; Moore, 1984). Sensory and perceptual deficits may occur secondarily to the movement limitations or may result from primary neurological damage (Moore, 1984). Sensory processing deficits in a child with CP affect play in different ways: first, they have an impact on the child’s preference for certain play materials and activities; second, they affect modulation and hence sustained attention; and third, the child fails to benefit from intense sensory experiences either because of being hyporesponsive to the input or because intensity is not provided. For instance, hyporesponsiveness and deficits in tactile discrimination and modulation affect children’s ability to obtain information about an object and thus influence their toy preference (Curry & Exner, 1988; Danella, 1973). This preference may mask motor as much as sensory-perceptual restrictions. Research studies and clinical observations have shown that multiply handicapped children exhibit a strong preference for vibratory toys (Danella, 1973) and for hard rather than soft toys (Curry & Exner, 1988). This preference for toys that provide distinct somatosensory inputs may indicate a sensory modulation problem that should be addressed during treatment.

Children who are able to move in space but exhibit vestibular modulation deficits may avoid moving equipment because of a hypersensitivity to movement or a gravitational insecurity. These sensory modulation deficits, added to the postural limitations, affect the child’s active participation in treatment and on the playground.

Deficient visual perception may also affect a child’s choice of play activity. Children with CP may not choose to play with toys that require refined perception of visual figure ground, spatial relations, or visual discrimination, such as puzzles, nesting toys, and construction materials. Although the therapist may need to address visual perception areas, they are not good choices for recreation or fostering of autonomous play, at least not initially.

Sensory modulation deficits affect the child’s ability to maintain an optimal level of arousal so that attention and learning of new concepts can occur. Children with modulation deficits have difficulty engaging in play either because their arousal level is too low, which interferes with active movement and motivation to participate, or because it is extremely high, which interferes with a child’s ability to maintain attention on the play activity.

A child who is hyporesponsive to input may receive decreased input even when he or she is exposed to an enriched environment. As a result the child’s self-awareness is reduced.

Limitations in Cognitive Abilities

Cognitive impairments are often described as accompanying CP and may be more handicapping than the restrictions in movement. In children with severe spastic quadriplegia, intellectual level has been found to have a greater impact on the acquisition of early cognitive
milestones than does severity of physical limitations (Eagle, 1985). Consequently, in a child with severe deficits in both movement and severe cognition, the cognitive limitations affect the development of play to a greater degree than do motor abilities.

Cognitive limitations may affect the ability to enter into make-believe and fantasy play. During fantasy play the child replays the past and anticipates the future. Therefore fantasy play has an impact on development of the capacity to anticipate practical consequences of actions (Singer & Singer, 1977). Children with CP may spontaneously enter into fantasy play, whereas therapists and parents tend to focus on play with objects and may neglect to consider the value of make-believe or pretend play. Fantasy play is an area that should be valued by the adult working with children.

**Limitations in Environmental Interactions**

In addition to the limitations that are inherent in a diagnosis of CP, the outside environment imposes physical and social restrictions that may be at least as confining as the disorder itself. The physical limitations reduce the child’s access to several factors of play: materials, such as appropriate toys; environments, such as recreational facilities; and extracurricular activities that promote play, such as sports, drama, and art. Social barriers may occur when the imposition of others’ values and beliefs limits social interactions. Physical limitations to recreational and leisure facilities in the environment are widely recognized. The following section focuses on the limitations that occur in social interactions.

**Limitations in Social Interactions**

Social constraints on play are evidenced in the child’s interactions with adults and peers. The influence of teachers, caregivers, and other adults in the development of play and other activities has been well documented (Caldwell, 1986; Hanzlik, 1989, 1990; Kogan, Tyler, & Turner, 1974; Missiuna & Pollock, 1991; Shevin, 1987). Several external factors contribute to different patterns of activity and diminished play in children with CP.

First, because of the nature of the physical limitations, the child with CP needs more adult intervention to perform simple activities and spends more time interacting with adults than do nondisabled children. Caregivers often tend to overprotect the child, and this adult interaction typically contains little play (Missiuna & Pollock, 1991). Furthermore, the child’s free time is reduced because of the need for therapy (Missiuna and Pollock, 1991). These children usually participate in “tightly defined sequencing of objectives” and “tightly defined instructional approaches” (Shevin, 1987, p. 237) that do not allow much flexibility or spontaneity. This happens in the classroom and in other settings.

In addition to the aforementioned factors, children with CP are exposed to attitudes toward play in which play is infrequent and not connected to the development of autonomy and self-direction (Shevin, 1987). Children with CP often demonstrate the intrinsic motivation and potential to enter into play, but they experience physical and environmentally imposed obstacles that result in different daily activity patterns from those of children without disabilities. When activity patterns of children with CP and spina bifida were compared with those of nondisabled children, children with CP and spina bifida were found to spend more time in quiet recreation, dependent activities, and activities of personal care and less time in active recreation, activities away from home, and household tasks. Their activities were less varied and were often accompanied by social interaction (Brown & Gordon, 1987).

In summary, physically challenged children spend larger amounts of time in structured activities that may constrict the sense of freedom necessary to explore the environment and engage in play. They have less opportunity to make decisions about what to do, where to go, whom to be with, and how to do something. As a result, they commonly have a decreased belief that they may be able to act on the environment.

The impact of adult intervention on the experience of play in a child with CP starts early in life. Mother-infant verbal and nonverbal interaction may be the primary component of play. In this interaction with the caregiver, children learn to respond with cognitive, motor, and social adaptations (Hanzlik, 1990). In turn, the caregiver adjusts to and reinforces the child’s responses, and thus infants and caregivers mutually contribute to the interaction (Hanzlik, 1990). If the child is unable to respond to these interactions adaptively, there is a risk that deviations will develop. These anomalies in the interactive process may affect the social, cognitive, and physical development of the infant (Hanzlik, 1990).

A professional’s emphasis on the child’s physical limitations indirectly affects the parent-child interaction because it may cause the caregiver to overfocus on physical development and neglect other facets of development (Kogan et al., 1974), including play. Professionals often teach parents about the importance of therapeutic intervention during the daily routine. This further constrains the parents’ time and disposition to engage in spontaneous play (Hanzlik, 1989, 1990). The degree of physical limitation affects the interaction in such a way that over the years, parents gradually become less affectionate during play and therapy sessions, particularly in cases where children make less physical progress (Kogan et al., 1974).

The difficulties and frustrations experienced by a child with CP may cultivate apathy and withdrawal (Mogford, 1977) and thereby negatively affect the child’s interaction with other children (Missiuna & Pollock, 1991).
Children with CP have limited opportunities for play with nondisabled children unless it is carefully planned. This occurs because there is still a stigma attached to these children and because their slower responses affect the playful interaction. When these children have the opportunity to play with nondisabled peers, such as when they are placed in mainstream programs, interaction between these groups is seldom encouraged (Shevin, 1987).

It is a paradox that adults who know little about play teach children how to play (Caldwell, 1986). This certainly applies to children with CP. Caregivers, teachers, and therapists need to become more aware not only of the importance of play as a means to an end, but also of ways to foster the child’s intrinsic motivation to seek opportunities for play as a pleasurable activity in itself. Playful interaction among children with similar physical difficulties is limited by the presence of multiple disabilities and may need adult facilitation. The following example illustrates this point.

CASE EXAMPLE 1

Sam, Jenny, and Rick

Three parents carry their children, Sam, Jenny, and Rick, into the treatment room and place them on the mat. Sam and Jenny have a diagnosis of spastic quadriparesis, and Rick has spastic athetosis. They are unable to sit independently but can roll and creep. Soon after Sam is placed on the floor, he recognizes Rick and Jenny, smiles, and creeps toward them. His spasticity becomes more evident as he pulls his weight on his arms. When he reaches Jenny he says, “Hi” and looks around for Sarah, his therapist. Jenny, prone, hyperextends her head and smiles in response but is unable to change her position. Rick attempts to catch Sam’s attention by vocalizing, but his sounds do not make clear words. Sam stays near them, smiling while he continues to wait for his therapist.

This description illustrates spontaneous interaction among children with CP. Sam approached the other children and initiated a potentially playful interaction. Jenny’s and Rick’s responses, however, were limited to smiles and vocalizations and did not further evolve into a playful interaction, probably because the required movement adaptations were beyond their capabilities. Children with CP may initiate a playful interaction by reaching, smiling, or bringing a toy over to another individual, but they tend to rely on the other person to expand on this initial interaction. A group of children with similar deficits may have difficulty entering into a playful interaction together.

In summary, the play of a child with CP is restricted by the inherent limitations of the diagnosis and by sociocultural constraints imposed by others in the environment. Nevertheless, these children possess the intrinsic motivation to enter into alternative forms of playful interaction. When serving these children, therapists must be aware of the nature of the disorders presented by the child and how these disorders interfere with the capacity to play. More important, they need to be aware of adults’ responsibility in either facilitating or inhibiting play.

ROLE OF PLAY IN TREATMENT AND EVERYDAY LIFE

As previously discussed, fostering play in a child with CP requires understanding the role of play in everyday life and how it is constrained by factors in both the child and the environment, including adults’ values and predisposition to play. Fostering play requires having appropriate play materials, play space, playtime, and playmates (Pugmire-Stoy, 1992). Since these elements are not enough to spark play in a child with CP, the adult needs to view himself or herself as a primary tool in facilitating play in treatment and everyday life.

Play in the Treatment Session

In the United States the preferred approach to treating movement disorder of children with CP is NDT. The goal of NDT is to increase the child’s functional ability by facilitating normal postural control and movement patterns. Although some authors believe that play and NDT can be easily combined (Anderson, Hinojosa, & Strauch, 1987; Erhardt, 1993), NDT’s focus on postural adjustments during function requires great creativity to avoid inhibiting the possibilities of entering into spontaneous play. The most often described relationship between NDT and play is this:

Play as motivation → NDT treatment → Image on movement → Ability to play

Play can be used during the treatment session to motivate the child to move by providing a meaningful context and distracting the child from the therapeutic objectives (Anderson et al., 1987; Rast, 1986). Improved movement abilities gained during the NDT session in turn affect the child’s potential to engage in exploration and free play outside the treatment session.

In the past, the use of NDT techniques did not provide room for a serious consideration of play in the treatment session. It is interesting to note, however, that although play has long been considered an important topic in occupational therapy for children with CP (Craig & Hendin, 1951; Robinaught, 1953), the introduction of NDT principles into the occupational therapy literature did not address the context of play (Fiorentino, 1966; Myzak & Fiorentino, 1961). Interest in play in connection with NDT did not develop until after the NDT approach was firmly established among occupational therapists and probably resulted from the increased interest in play in
the occupational therapy literature (Reilly, 1974). The view of play that evolved during the 1970s and 1980s and has since been expanded is described at the beginning of this lesson. From this perspective, play has the following purposes in the treatment of the child with CP:

- As a motivator or reinforcer (often through the use of a toy or as promised playtime at the end of the session)
- As an arena or meaningful context where skills are acquired for future performance
- As an enjoyable, intrinsically motivated, spontaneous, process-oriented activity

Caldwell (1986) proposed that “we have so overweighed our research toward play as a means to an end that we have lost the essence of what play means in the life of the young child” (p. 307). This section addresses all three uses of play but emphasizes the importance of the often neglected third use as the one that restores the essence of play to the life of the child with CP. To embrace this view in treatment, therapists need to be able to distinguish among play as a motivator, play as a context for acquisition of adaptive skills, and play as an intrinsically motivated, process-oriented activity.

**Play as Motivator or Reinforcement**

When play is used to motivate a child to interact and participate in treatment, it is important to consider all the possibilities that play can offer. First, therapists need to select materials that will encourage play and to determine how to use the materials and space to their maximum potential. Second, they need to be aware that if they are to use play as motivation, they must allow playtime during the session. Third, they need to consider that other forms of play may be more productive than those requiring the child to use fine motor manipulation. Fourth, they need to avoid some common mistakes during treatment.

**Play materials**

The term “play materials” generally refers to toys. The sensorimotor toys used in therapy are often not conducive to play but have been chosen by therapists to affect motor coordination and other deficit areas. Hence they are seldom regarded as objects for play by the child (Figure 15-1). When asked whether he wanted to play with some coordination toys while waiting for his mom, Sam, a 5-year-old with spastic diplegia, emphasized this point by saying, “No. That’s not fun, that’s work!” If therapists want to encourage play rather than solely functional motor performance through the use of an educational “toy,” they should pay attention to the way they use space and toys. Even when spaces and materials are colorful and attractive, the most difficult challenges for clinicians are finding a toy that addresses both the therapist’s goals and the child’s motivation and interests and treating the child without having total control over the space in which he or she plays. In the therapeutic setting, clinicians often sacrifice motivation for therapeutic value and transform play into a vehicle for meeting motor goals. For example, therapists control the toys the child uses and the space the child can explore. Exploration often leads to play, but for a child with CP, the need to use positioning equipment in the home and classroom commonly restricts that possibility (Graham & Bryant, 1993). In treatment, handling of the child should take place during free exploration and should not be limited to a confined space (Figure 15-2). The following case example illustrates that point.

**CASE EXAMPLE 2**

**Mark**

The treatment room is large and inviting. There are colorful balls, rolls, and toys on the blue mats. A therapist, Marcie, treats Mark, an attractive 3-year-old boy with spastic diplegia. His mother sits nearby with the younger sibling. Mark lies prone on the mat, his head resting on his arms. Upon a request from the therapist, he raises his head and begins to move slowly toward her. He stops and rests. His muscle tone is low but increases when he attempts to move in space. His movements are slow and ponderous. Suddenly his younger sibling runs by him to get a toy. Mark raises his head eagerly, follows her movements with his head, and chases her by pulling on his arms and creeping in her direction. As he moves, his muscle tone increases and flexion is observed in his body. The therapist calls to him and asks him to stop and instead come to her. Mark stops but ignores the request to creep back. Marcie approaches him and helps him sit on a red bolster. Mark has little control over his movements. His balance is poor, and he tends to use his arms for support. Marcie places a ring stack in front of Mark and asks the youngster to reach. His attempt to reach is slow and difficult. His trunk is slouched, his head is laterally tilted, and he leans on his hands against the bolster. The therapist wonders whether the activity is too demanding and changes his position. He now sits sideways against the bolster. Marcie shows him a book; she plans to maintain his attention and work on his sitting balance by pointing to the pictures in the book. At first Mark appears interested in the book, but soon he slouches against the bolster and leans his head on his arms as he looks around the room.

In this example Mark indicated little intrinsic motivation to engage in the sensorimotor activities presented to him. However, he did appear interested in the other child moving around him. The therapist’s goals included the development of postural control to participate in functional activities. At this point in treatment it might have been more beneficial to use the other child as a playmate.
Figure 1
The use of coordination toys to facilitate reach, grasp, release, and trunk control. These activities may or may not be considered play by the child.

Figure 2
A. A carriage with dolls can motivate the child to move. B. In some cases (see right knee) adequate body alignment is lost in the enthusiasm of performing the activity. C. In other cases the child’s motivation to play may take momentary priority over the treatment goal.
to motivate Mark to maintain an erect position. In this case the use of sensorimotor play materials was too demanding and not motivating enough for the child.

If therapists want to encourage genuine play rather than motor performance with an educational “toy,” they should pay attention to the toys they provide. The selection of appropriate toys to encourage active participation during treatment has been extensively documented (Ayrault, 1977; Musselwhite, 1986). The choice of toy depends on the purpose of play. Toys are chosen for their educational and therapeutic value or for their recreational value (Tebo, 1986). Therapeutic toys are selected based on the needs of the child, but recreational toys are meant to facilitate independent play and are chosen based on the child’s acquired skills and motivation. When choosing a toy, the therapist must consider its inherent features (safety, durability, degree of structure offered by the toy, responsiveness of the toy, and motivational value of the toy), the age appropriateness of the toy, and its therapeutic value (Musselwhite, 1986).

The toys for children with severe movement deficits have to be carefully chosen. Sometimes commercially available toys can be adapted to enhance their responsive nature so that they are easily triggered by the child’s limited movements. A child with severe deficits often chooses to play if the toy is colorful and produces dramatic rewards for simple movements (Mogford, 1977). In reference to the therapeutic value of toys, children with fluctuating muscle tone benefit from toys that are heavier and offer resistance because they facilitate proximal stability and increase sensory feedback (Boehme, 1987). Children with hypertonicity need lighter toys that offer some unpredictability because such toys facilitate a greater range of movement and decrease the tendency to remain in a fixed position (Boehme, 1987).

Toys that require less precise manipulative skills, such as textured play dough, action toys, stickers, magnetic toys, rice, brushes, and shaving cream or foam may also be appropriate choices for most children (Figure 3). Toys that do not have rigid, preset rules and that allow flexibility may increase the motivation to participate and enhance the child’s feeling of mastery over the material.

A discussion about play materials would not be complete without the inclusion of the computer as a tool for play. Computers are now part of most households, and web sites serving people with CP have proliferated. Computers offer children with CP the possibility to enter into virtual play and thus engage in playful interactions that are not hindered by their physical limitations. Engagement in virtual play is reported to increase motivation, interest, and self-efficacy in children with CP (Reid, 2002). For people with physical disabilities, the use of computers and virtual play probably opens the most promising avenue for enjoyment and full participation in the prevalent culture.

**Figure 3**

This 4-year-old expressed interest in playing with stickers. The therapist accommodated her treatment goals (weight bearing) to include this activity in the treatment session.

**Playtime**

Therapists who use playtime for reinforcement need to be careful not to banish it consistently until the end of the session. If play is used to reinforce a specific action, it should be consistently allowed at the appropriate point during the session, not necessarily at the end. In the classroom setting the timing of the free-play activity before lunch, after a class period, or at the end of the day makes it particularly vulnerable to interruption and postponement (Shevin, 1987). The same occurs in the therapeutic session. Playtime allowed only at the end of the session may carry the message of decreased importance and lack of regard for what the child deems important.

**Different Forms of Play**

Different forms of play include fantasy play, social interactions, and sensation seeking. These are sometimes more powerful sources of motivation than manipulation.
of toys. The incorporation of other children, who may or may not have a disability, into the treatment session as playmates with the purpose of motivating movement, active participation, and social interaction can often prove to be enriching (Figure 4).

Practices to Be Avoided

A habit that should be discouraged is the use of toys as lures to prompt the child to participate. Therapists often display a toy to instigate a specific movement such as reach or ambulation, but when the child is close to the promised toy, the therapist moves it farther away to elicit a more perfect movement or a longer sequence of movement. This practice decreases motivation and active participation on the part of the child.

The therapist should not introduce a toy that requires manipulation while attempting to facilitate a gross motor skill such as balance. Although it is important to facilitate movement within a meaningful context, in everyday life people seldom perform activities that simultaneously require gross motor, fine motor–perceptual, and cognitive effort. When working on the development of gross motor skills, the therapist may find it beneficial to encourage fantasy play, such as pretending and storytelling, rather than forms of play that require fine motor manipulation. Later, after the new gross motor skill is developed, the therapist can incorporate it into forms of play that require reach, grasp, release, and fine motor manipulation.

Another practice to avoid is repeating the same activity several times consecutively. For example, when using construction toys, puzzles, blocks, or action figures, therapists sometimes ask the child to place pieces into a container or put a puzzle together. Once the child performs the activity successfully, the therapist dumps the pieces out and asks the child to repeat the activity. This habit may be effective in facilitating a desired movement, but it takes perceived control away from the child and reinforces the child’s perception of lack of mastery over the environment. If play, rather than toys, is used to motivate the child, the therapist should consider alternative forms of play and the use of playmates to enhance the experience.

Play as Context

Play has been described as an activity that provides context to the development of adaptive skills (Munoz, 1986; Rast, 1986; Robinson, 1977; Sparling, Walker, & Singdahlsen, 1984). This view considers play to be useful in serving the development of motor, cognitive, and social skills for future use, rather than as a purely enjoyable experience. The playful activity is still chosen for its educational or therapeutic value. However, this view also recognizes play as a valuable activity with distinct characteristics and not just as a reward or motivation for some other goal.

When thinking about play as a context for developing functional skills, the therapist needs to understand that the child and therapist may have different purposes for activities and therefore may view them differently. Activities that appear to be enjoyable to the adult may not be considered play by the child. Not all functions performed by children are play, but many activities can be spontaneously transformed into play. A therapist may transform a treatment session into play by allowing the child to choose an activity, be spontaneous, and have fun. Activities can be transformed into play by the child’s willingness to enter an enjoyable world in which reality is momentarily suspended and the goal of the activity is the performance of it. Even when the therapist’s motivation is to incorporate play for the acquisition of specific developmental skills, attention to the child’s perception of play increases the probability of the child’s full participation. This point is discussed further in the next section.

The use of play as context for NDT techniques can now be discussed in reference to motor control theories based on an ecological approach that views the actor and environment as inseparable in the acquisition of skills (Gliner, 1985). This approach emphasizes the need for a treatment environment that is “critical in eliciting the type of action (movement if you will) that is adaptive” (Fetters, 1991, p. 222). The goal of the therapist is to create an environment with “opportunities for normal, or at least preferred, movement patterns” (Fetters, 1991, p. 222). These motor control theories advocate a less “hands-on” approach to teaching motor problem-solving skills. They suggest that the therapist should elicit self-initiated movement and active exploratory experiences from the child while considering environmental restrictions and musculoskeletal constraints, the child’s motivation, opportunities to practice abilities, and the development of effective compensations when necessary (Fetters, 1991; Gliner, 1985). This lesson proposes that, in such a model, play provides
a relevant context for the acquisition of skills. Play is a motivating, freely chosen activity during which the therapist can elicit active movement and exploration and the child can develop problem-solving skills and strategies in a task-oriented context and can practice newly acquired skills.

Principles of motivation and environmentally relevant activities are central to theories of occupational therapy and were long ago incorporated in sensory integrative treatment (Ayres, 1972; Gliner, 1985). However, their inclusion in the treatment of motor skills for children with CP is based on more recent motor control theories that emphasize the importance of context-relevant, self-initiated movement as a concern both for occupational therapists and for other professionals working with the child. Box 1 summarizes the considerations for using play in treatment for the child with CP. These considerations are discussed in detail in the following sections.

### Play as an End in Itself

Incorporating play into the treatment session and the life of the child with CP requires understanding of the characteristics and essence of play. The following basic components of play can be incorporated into treatment:

1. **Spontaneity in starting, changing, or ending an activity.** For the child, spontaneity may lead to increased variability of behavioral responses and may have an impact on creativity (Singer & Singer, 1977).

2. **Intrinsic motivation to initiate, create, or be part of an activity.** Fostering intrinsic motivation may enhance the child’s sense of control.

3. **Ability to suspend reality.** This may affect the child’s motivation to participate in treatment activities.

4. **Enjoyment of the process rather than focusing on the end product.** This may increase active participation.

5. **Active participation, whether physically, cognitively, or socially.** Active participation affects learning and overall performance.

6. **Increased arousal.** Play can be used to increase arousal level and hence can be incorporated into treatment. Level of arousal has an impact on the child’s attention and active interaction with the environment.

These concepts are next described in relation to the use of play as motivator, as context, and as enjoyable activity.

### Spontaneity

Freedom to be spontaneous is often inhibited by physical limitations. When therapists evaluate play, they frequently place children in an inviting environment where they are encouraged to play spontaneously. Sheridan (1975) referred to the importance of systematic observations of spontaneous play in children with disabilities. These observations often yield valuable information about a child’s ability to self-organize and interact with the environment.

**Box 1  Considerations for Play in Treatment**

<table>
<thead>
<tr>
<th>Play to Motivate Participation</th>
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<tbody>
<tr>
<td>Use of materials and space</td>
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<tr>
<td>• Features of the toys: safety, motivational</td>
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<tr>
<td>• Structure provided, responsiveness</td>
</tr>
<tr>
<td>• Age appropriateness</td>
</tr>
<tr>
<td>• Therapeutic value: treatment goals</td>
</tr>
<tr>
<td>Use of playtime</td>
</tr>
<tr>
<td>Use of playmates</td>
</tr>
<tr>
<td>Use of multiple forms of play</td>
</tr>
<tr>
<td>• Social interaction</td>
</tr>
<tr>
<td>• Sensory input</td>
</tr>
<tr>
<td>• Fantasy (suspension of reality)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Play as a Context for the Development of Adaptive Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapist’s treatment goal</td>
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<tr>
<td>Child’s motivation to participate</td>
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<table>
<thead>
<tr>
<th>Play as an End in Itself</th>
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</thead>
<tbody>
<tr>
<td>Intrinsic motivation</td>
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<tr>
<td>Spontaneity</td>
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<tr>
<td>Enjoyment</td>
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<tr>
<td>Suspension of reality</td>
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<tr>
<td>Active engagement—sense of control</td>
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<tr>
<td>Increased arousal</td>
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</tbody>
</table>

Levitt (1975) described the interactions of children with CP in an adventure playground designed to stimulate motor and sensory experiences. In this situation children demonstrated two types of behavior. On the one hand, the opportunity for the children to move spontaneously allowed them to practice movements that were already established in therapy. Some of these behaviors included movement skills that were rarely possible in the school, clinic, or hospital setting. On the other hand, children regressed to lower levels of motor ability if the play activity was overly demanding yet highly interesting (Levitt, 1975). These are important considerations in treatment. The child who engages in spontaneous play may need additional support so that he or she progresses to the next level of motor development rather than regressing to previous ones.

Adults have a pivotal role in encouraging spontaneity. The therapist can incorporate spontaneity into the treatment session by being less directive and providing flexible activities that allow modifications or bending of the rules. Puzzles and coordination toys do not permit a great deal of spontaneous behavior. On the contrary, they follow preestablished patterns and discourage the child from spontaneously choosing to end or prolong the activity as she or he sees fit.
Intrinsic Motivation

Being intrinsically motivated requires having basic ideas of how to interact with objects and space. Because of motor and other limitations, children with CP do not have much freedom to choose and carry out a task. In addition, adults seldom provide these children with the opportunity to offer their opinion or select among several alternatives. Their highly structured daily routines greatly reduce the possibility to express intrinsically motivated behavior. When children with CP are asked to choose between several alternatives, they often respond, “I don’t know.” Intrinsic motivation may be hindered by several factors: cognitive limitations that affect the development of new ideas, physical limitations that limit the choices, and externally produced limitations set by caregivers and other adults for the child at home, at school, and in therapy.

Findings in motor control research have emphasized the importance of motivation in task performance and the treatment of CP (Giuliani, 1991). The use of sensory integration principles in conjunction with NDT provides a useful frame of reference for facilitating intrinsic motivation. To foster intrinsic motivation during the treatment session, the therapist can provide choices of activities and encourage decision making. Hence, the environment and the therapist need to be flexible to allow intrinsic motivation to emerge.

Clinical Vignette

Erika, a 4-year-old girl with a diagnosis of spastic diplegia, received occupational therapy once a week in a setting that served multiple diagnoses and used several treatment approaches. The treatment goals included facilitation of sitting balance, shoulder flexion against gravity, and bilateral activities. Erika was inquisitive, often asking what the other children were doing and tending to prefer to observe the other children instead of playing with the play dough, puzzles, blocks, and stickers that the therapist presented to increase her perceptual-motor skills.

On one occasion Erika appeared particularly uninterested in the activities she was asked to choose from, and she looked up at the glider and asked the therapist whether they could do that. Although this had not been one of the choices given to Erika, she appeared to have her heart set on doing that activity. The therapist realized that hanging from the glider could trigger increased spasticity in the lower extremities and also that Erika’s hands were not strong enough to hold the weight of her entire hanging body. At that point the therapist decided that as long as one of her goals was to facilitate upper extremity movement above Erika’s head in conjunction with active trunk extension against gravity, she could try to do just that by holding Erika up in her arms so that Erika could reach for the glider. When the child reached, the therapist, still problem solving, lowered her hands to Erika’s lower extremities and maintained these in abduction to avoid an abnormal extensor pattern. Erika laughed as she moved in space holding onto the glider, and she then “fell” into a pillow. After that she sat on the bolster and continued happily with the perceptual-motor activities provided by the therapist.

This vignette illustrates how the child’s intrinsic motivation to perform an activity was respected and encouraged by the therapist. Making this a successful activity required physical and mental effort from the therapist. The activity itself lasted at most a minute; however, the memory of the experience stayed with Erika. In subsequent sessions Erika continued to choose some of the activities that she wanted to perform. Certain of these activities worked well with the treatment goals; others were cut short by the therapist because they facilitated increased tone and abnormal posturing and therefore conflicted with some of the treatment goals. Erika did not mind having some activities eliminated as long as she could choose others.

During the treatment session both functional tasks and playful experiences are important. Work and play are part of people’s lives, and both can be incorporated into treatment without always considering one at the expense of other. The vignette about Erika illustrates how therapist and child negotiated an agreement that allowed both work and play.

Suspension of Reality in Fantasy Play

Fantasy play requires the individual to be able temporarily to suspend reality and its consequences. The ability to suspend reality and enter a make-believe world has an important role in the child’s development and may contribute to creativity (Singer & Singer, 1977). Fantasy can be used throughout a treatment session to motivate a child or encourage active use of creative thought processes. Clinicians are sometimes unaware of the value of social interaction and fantasy play in assisting treatment sessions. The following case example illustrates that point.

CASE EXAMPLE 3

Johnny

A summer storm starts as Luisa, a physical therapist, is ready to begin the treatment session with Johnny. She is aware that Johnny is extremely sensitive to noise and therefore very frightened of the storm that is coming. At first Luisa hopes that the child will not notice that it is getting darker and that the rain is coming harder. When Johnny expresses his discomfort, she knows that the session may be over unless she figures out how to distract him. Luisa decides to enter into fantasy with
In this example both therapist and child viewed the time as meaningful. For Johnny the meaning was provided by the storytelling, and for Luisa the meaning was derived from the success of the treatment activity. The therapist used fantasy play to shift attention and motivate the child to stay with the activity while she continued to facilitate postural control. Luisa entered into fantasy play as a way to distract Johnny, but she unconsciously incorporated all the elements that make play an end in itself: she was spontaneous, and she respected the child’s intrinsic motivation to participate in the making of the story and thus did not control the outcome. The story line suspended reality, and they had fun creating it. Fantasy play could also have been used to encourage a creative thought process by having the child create the story himself. In that case play would have been used as motivator, as context, and as an intrinsically motivated joyous activity in its own right.

Closely related to fantasy and creativity is the use of educational drama and educational art to foster development in physically challenged children. Sparling et al. (1984) reported the use of controlled experience of drama and art with 14 physically challenged children. Their findings suggested that art and drama had a significant effect on cognitive, social, emotional, motor, language, and activities of daily living performance, with drama having a greater effect on the first three areas and art having a greater effect on the last three.

Fantasy play can be used to encourage the child to suspend reality and use creative thought processes. Alternate storytelling is an activity that can be used during the session to encourage active participation by the child. In this situation the child and the therapist take turns making up a story. Each of them needs to adapt to the changes made by the previous person and is required to continue the story. A less demanding incorporation of fantasy play is the use of hats, jewelry, and social games that facilitate the ability to pretend (Figure 15-5). Children with CP often enjoy treating a doll on a ball. This behavior might be viewed as illustrating the major emphasis in their lives.

Fun and Enjoyment

To increase the child’s enjoyment of a task, the therapist needs to include activities that are process oriented rather than end product or goal oriented. Whether an activity is process oriented or end product oriented is ultimately determined by the child performing the task. For example, some children find the process of making a picture to be fun, others derive pleasure from the completed task, and still others consider it simply to be drudgery. If the

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Figure 5

A. Hats can be used during fantasy play to facilitate head control and upper extremity reach. B. Little people, cars, and other social toys are sometimes less demanding and more motivating for the child. Most functions that can be facilitated with a coordination toy can be performed with action toys.
process is a chore, the pleasure of the completed picture may not be enough to make the activity fun. It is difficult to find sensorimotor activities that are enjoyable for a child with CP. As previously mentioned, nonstructured materials such as play dough, water, and bubbles allow the child to have fun while manipulating the material. Social play and action toys such as dolls, cups, and cars also permit some freedom and enjoyment (Figure 5, B). Activities that provide enhanced sensory input, such as playing in the sand or water, swinging, and pounding play dough, are often enjoyable and process oriented (Figure 6).

In the treatment of children with CP, therapists tend to provide play activities that address their movement limitations. These activities are seldom considered fun and are seldom chosen by the child. However, a child may choose to repeat an activity because it is fun, and this activity may prove to be a useful context for practicing specific skills. Practicing newly acquired skills improves the child’s motor ability and provides a sense of mastery that may increase pleasure derived from the activity.

**Increased Arousal**

Through the use of sensory input, play can be incorporated into an activity to increase arousal. This input can be used to modify the child’s arousal level and hence improve attention. Play is often described as an activity that is sought because of its arousing qualities (Ellis, 1973), as when children twirl and swing. Children with CP may be limited in their search for an arousing experience. In treatment a session can be started with an arousing play experience that has been transformed to meet the treatment goals.

**CASE EXAMPLE 4**

**Brian**

Brian, a 5-year-old with spastic hemiplegia, has been treated for most of his life. The treatment goals include improving postural control, hand skills, and visual-motor coordination. On one occasion the treating clinician notices that Brian becomes more cooperative after an arousing play activity that involves tactile input. They call this game “Ninjas.” Brian is the Ninja Turtle and the therapist is “Shredder” or “the bad guy.” Each carries a long-handled brush that can be used to brush the other’s feet. The big treatment balls and bolsters lying around the treatment room become the obstacles that have to be sorted out while a player is running away. Both therapist and child chase each other. During this activity Brian, who is usually inattentive and trips often, is able to maneuver through most obstacles in space, go up and down ramps, and maintain his balance while climbing onto equipment (Figure 7). The activity is performed for a short time, but the increased arousal occurring during that time affects Brian’s ability to attend and he is able to participate more actively in the subsequent tabletop activities.

*Figure 6*

The integration of equipment that provides sensory input, such as, **A**, brushes and, **B**, swings, assists in preparing the child’s arousal level and motivation to actively engage in an activity.
Encouraging Independent Play and Recreational Activities

The ultimate goal of encouraging play during school and treatment sessions is to enhance the child’s motivation to engage independently in play. Yet external factors such as the daily routine and the physical environment may have to be modified for play to occur outside the controlled environment. Fostering play outside the structured environment requires understanding the child’s preferred play and offering the child the opportunity to have appropriate play materials, play space, playtime, and playmates (Blanche, 2002; Pugmire-Stoy, 1992). To understand the child’s preferred play, the therapist observes and interviews the child about preferences in process-oriented occupations. The therapist should ask whether the child enjoys imagination, intense sensory experiences, being exposed to new information, social interactions, or quiet time. Based on the child’s preferences, the play materials, play space, playtime, and playmates are chosen. Box 2 summarizes the areas the therapist should consider when fostering play outside the treatment area.

When the therapist is fostering independent play, a selection of novel materials and toys should be available for the child. Toy lending libraries offer the opportunity to have a large selection of toys and games from which the child can choose (Munoz, 1986). Sometimes the materials must be adapted to meet the needs of the child. When independent play is to be facilitated, the selection of play materials should relate to the everyday environment, such as playing in the snow, piling and jumping into leaves, and splashing water (Musselwhite, 1986). Toys for independent play may also need to be more responsive and easier to handle than those used with adult guidance. In summary, the choice of materials should allow the child to explore, master, and control.

The play space includes having a specific space for the child to play. The space and the materials can allow novelty and surprise or may provide a quiet space.

Figure 7

A and B, Children are often motivated to participate in active games (role playing Ninja Turtles, Power Rangers, etc.) that can be used to facilitate movements in space while negotiating obstacles. C, The use of tires and large equipment can encourage balance, upper extremity weight bearing, and active movements in space.
for the child. In some cases the child needs to be offered unfamiliar environments and allowed to explore space freely. In other instances he or she may need positioning equipment to engage in play. Play space includes adapted playgrounds, adapted backyards, and adapted ways to explore the community as an alternative for the child. Children with physical disabilities can enjoy outdoor activities such as gardening, nature walks, picnics, and animal husbandry if a few adaptations are made (Greenstein, Miner, Kudela, & Bloom, 1993). Occupational therapists should assume an active role not only in adapting the child's playground, but in planning community playgrounds (Stout, 1988).

Even when children with CP have busy routines that do not allow free time to engage in spontaneous play, playtime should be scheduled during the day. This may be free time before dinner, scheduled time with a friend, or a recreational activity such as an art class. Some schools plan a theater production in which parents and children participate. Such a program provides a potential opportunity for the parents, teachers, and children to engage in play.

Playing with nondisabled siblings, neighbors, and friends can prove to be an enriching experience for the child with CP and for the playmates. Socially inclined children may enter more easily into play when other children are present. Other children may prefer to observe peers rather than enter into play with them. Nondisabled children offer better role models of spontaneous play behavior than adults. However, when a child with CP participates in a mainstream special education program, teachers and other adults seldom encourage this interaction (Shevin, 1987).

The closest nondisabled playmates for children with CP are their siblings. The inclusion of siblings in the rehabilitation process can have positive effects on the functional performance in children with CP (Craft, Lakin, Oppliger, Clancy, & Vanderlinden, 1990). Occupational therapists can include siblings in play situations through participation in camp experiences, intervention sessions, and outings.

**Role of the Adult in Facilitating Play**

Adults play a pivotal role in enhancing or inhibiting the child's capacity to play (Jones & Reynolds, 1992; Musselwhite, 1986; Newson & Head, 1979). In the case of the child with CP, adults may have to take a more directive role in encouraging the child to interact actively with the environment (Newson & Head, 1979). Sometimes, however, the adult may just need to have an inviting role in encouraging play. Therefore, when fostering play, therapists should take into consideration their own readiness to allow play to occur, the role they take in it, and the tactics they use to facilitate play (Musselwhite, 1986). Musselwhite (1986) and Jones and Reynolds (1992) identified several roles taken by the adult during play with the child. These roles can be summarized as follows:

- **The stage manager.** The adult takes the responsibility to provide the time and arrange the physical environment so that it invites play (Jones & Reynolds, 1992). This is the role often taken by preschool teachers and therapists using a sensory integration approach.

- **The mediator.** The adult assists in child-to-child and child-to-physical world interaction by modeling problem-solving skills during play (Jones & Reynolds, 1992). Occupational therapists often use this approach when considering the context of play to resolve a problem.

- **The director.** The adult takes an active role in getting and maintaining the child's attention and interest in play, demonstrates specific skills and behaviors, and controls the playful interaction between two children or between the adult and the child (Jones & Reynolds, 1992; Musselwhite, 1986). This role may be taken by therapists when working with children who are severely limited and when using play as a context for learning adaptive skills.

- **The observer.** The adult does not enter into play but sits back, takes notes, and analyzes the situation (Jones and Reynolds, 1992; Musselwhite, 1986). This role is used by the therapist during the assessment of play skills.

- **The player.** The adult enters into play with the child. The decision to assume this role depends on the

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**Box 2  Fostering Play Outside The Treatment Area**

<table>
<thead>
<tr>
<th>Play Materials</th>
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</thead>
<tbody>
<tr>
<td>Type of toys</td>
<td></td>
</tr>
<tr>
<td>Toy variety (construction, sociodramatic, etc.)</td>
<td></td>
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<tr>
<td>Need for adaptive toys</td>
<td></td>
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<tr>
<td>Toy lending libraries</td>
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<table>
<thead>
<tr>
<th>Play Space</th>
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<tbody>
<tr>
<td>Consideration of distractions</td>
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<tr>
<td>Seating and positioning</td>
<td></td>
</tr>
<tr>
<td>Adapted playgrounds</td>
<td></td>
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<tr>
<td>Backyard activities</td>
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</table>

<table>
<thead>
<tr>
<th>Playtime</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Individual and with others</td>
<td></td>
</tr>
<tr>
<td>• At home</td>
<td></td>
</tr>
<tr>
<td>• Play dates</td>
<td></td>
</tr>
<tr>
<td>In the community and with others</td>
<td></td>
</tr>
<tr>
<td>• Art classes</td>
<td></td>
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<tr>
<td>• Theater productions</td>
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</table>

<table>
<thead>
<tr>
<th>Playmates</th>
<th></th>
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<tbody>
<tr>
<td>Non–physically challenged children</td>
<td></td>
</tr>
<tr>
<td>Siblings and neighbors</td>
<td></td>
</tr>
<tr>
<td>Classmates (in mainstreamed program)</td>
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</table>
When the activity is unsuccessful, the following questions can guide the clinical reasoning process:

1. Is the appropriate amount of sensory input being provided to the child? Is low arousal level affecting muscle tone and drive to explore the environment?
2. Is the activity structured in such a way that the meaning is eliminated, for example, in repetition of manipulative tasks?

**SUMMARY**

Play for the child with CP can be used as motivation, as context to promote competence, and as spontaneous, enjoyable activity. This lesson emphasizes the importance of understanding the characteristics of play and the role of the adult in promoting play for the child with CP. For that to occur, play must be considered not only a means to an end, but also an end in itself.

**Review Questions**

1. This lesson discusses the roles of play in normal development. Consider how these roles are relevant to the child with cerebral palsy.
2. Consider how limitations in movement, sensory processing, cognition, and environment may have an impact on the play of the child with CP. How may treatment address each of these types of limitation?
3. Contrast the ways in which play is used in treatment as a motivator, as a context for skill acquisition, and as a process-oriented activity.
4. Describe considerations that are needed in the selection of toys for children with severe movement deficits.
5. How may the therapist encourage spontaneity and enjoyment in the play of the child with cerebral palsy?
6. What are the roles that adults may take on when facilitating play? Under what circumstances are the roles typically assumed?

**REFERENCES**


**INTERNET RESOURCES**


2. Focus on promoting opportunities for inclusion through the use of technology. Provides access guides for recreational activities, sports, entertainment, and travel: [http://www.infinitec.org/who.htm](http://www.infinitec.org/who.htm) [http://www.infinitec.org/play/index.html](http://www.infinitec.org/play/index.html)

3. United Cerebral Palsy of New York City—tips about assistive technology: [http://www.ucpny.org/info/assist/playandrecreation.cfm#1](http://www.ucpny.org/info/assist/playandrecreation.cfm#1)

4. Suggestions for toys and toy material: [www.lekotek.org](http://www.lekotek.org)