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Play behavior and occupational therapy.

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CASE REPORT

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A major goal of occupational therapy is to enhance a person's ability to interact in the environment in a competent manner (Rogers, 1982). Competence, as defined by White (1959) and as upheld by the occupational therapy profession, is an organism's ability to interact effectively with its environment. Involvement in purposeful activity is viewed as a means of competence enhancement and is self-organizing in nature (Reilly, 1974).

To evaluate the effectiveness of occupational therapy, measures of competence are necessary. These measures must reflect the person's occupational roles and his or her competence in interacting with the environment.

For the preschool child, play is an arena for the development of competence and is the primary expression of purposeful activity. Play is a major vehicle by which the child processes and reacts to environmental information (Neville, Kielhofner, & Brasic-Royeen, 1985; Reilly, 1974). By observing children during play, we can gain information about their competence in interacting in the environment (Bledsoe & Shepherd, 1982; D'Eugenio, 1986; Harrison & Kielhofner, 1986; Knox, 1974; Takata, 1974).

Accepting that play is a measure of competence for the preschool child and that a major goal of occupational therapy is to enhance competence, we can expect that spontaneous changes in play behavior will occur as a result of occupational therapy. The measurement and documentation of these changes in play behavior, therefore, will provide us with information about the child's competence as well as evidence of the effectiveness of occupational therapy.

Lindquist, Mack, and Parham (1982) and Mack, Lindquist, and Parham (1982) discussed the concept of play as an occupational behavior that reflects competence and that is related to the normal sensory integrative process: "Sensory integration is viewed as an ongoing process that underlies the development of play; play experiences, in turn, influence the development of sensory integration" (Lindquist et al., 1982, p. 437). On the basis of this theoretical supposition, Schaaf, Merrill, and Kinsella (1987) demonstrated that play was a valuable means by which one can observe and measure a child's competence and that occupational therapy was effective in enhancing competence and play. They reported significant changes in the play behavior of a child treated by an occupational therapist using a sensory integrative approach. The present paper presents a similar report: During 10 months of treatment, I studied the changes in the play behavior of a learning disabled child with sensory integrative dysfunction.

Case History

C.C. is a 5-year 8-month-old boy who lives with his parents and younger sister in a middle-class suburb. His birth and early developmental history were unremarkable. C.C. met all developmental motor milestones within normal age ranges. C.C.'s parents reported that he was a very active baby and that he continues to be distractible and hyperactive. They described him as a bright and loving child who seems to get overloaded and overstimulated easily. His parents said that, as an infant and young child, C.C. was terrified of any type of movement activities, "had difficulty with gravity," disliked most types of touch sensations, and had difficulty with manipulative hand skills. Although these behaviors have decreased over the past 2 years, his parents reported that C.C. continues to demonstrate a moderate aversion to movement and tactile stimuli and moderate hyperactivity with distractibility. He does not respond well to changes in routine, and he becomes frustrated easily, which he demonstrates by flapping his arms or screaming.

C.C. attends an ungraded, diagnostic special education classroom that meets 5 days a week from 9 a.m. to 3 p.m. The general goals are academic and emphasize premath and prereading skills, handwriting, and science. The teacher described C.C. as a pleasant, likable youngster who is extremely distractible. He often wanders around the classroom and talks to the other children at inappropriate times and in an inappropriate manner (e.g., he asks for food or asks questions unrelated to the task at hand) He enjoys working on the computer and playing with puzzles during free playtime.

On a typical school day, C.C. rises at 6:30 a.m., dresses himself, and eats breakfast by 7:15 a.m After breakfast, his mother brushes his teeth (he needs assistance because his mouth is hypersensitive) and combs his hair. He plays or watches television if time permits and catches the bus at 8:05 a.m. He starts school at 9 a.m. and arrives home by 4:30 p.m. He plays for a short time and then completes his homework with parental supervision. C.C 's mother requires him to ride a stationary bike for 2 miles each day, because she believes that this repetitive motor activity helps decrease C.C.'s hyperactivity and distractibility. After dinner, C.C. plays or watches television until bedtime at 8 p.m. Weekends are less structured and typically include more playtime and a nap. C.C.'s mother said that it is often difficult to get her son off to school in the morning because he tends to wander from the task at hand and needs constant structuring and redirection.

During his free time at home, C.C. enjoys playing with toy cars and trucks while making motor noises and driving them around the table and parking them in rows. He also enjoys riding his bicycle up and down the sidewalk, looking at books, and listening to his tape recorder. He usually plays alone or in the same room with his sister and occasionally plays with a neighborhood boy who is 1 year younger. He is often disruptive to the other children and requires frequent intervention from his mother during play In addition to special education programming, C.C. receives speech and language therapy twice a week and classroom psychiatric counseling once a week.

Evaluations

A psychological evaluation at 4 years 9 months of age showed that C.C.'s overall cognitive abilities were well within normal limits; however, personal and social adjustment difficulties were evident. Behavioral abnormalities included episodic emotional liability, frequent temper tantrums, hand flapping, erratic eye contact, and social isolation.

A speech and language evaluation at 4 years 7 months of age reported that C.C "demonstrates a number of age appropriate receptive and expressive language skills. His speech was very intelligible, however, he demonstrated subtle language difficulties which included language processing or possibly sensory processing difficulties such as poor attention, inconsistent and inappropriate responses to questions, a need for repetition of instructions, and delays in responding to verbal input. Expressively, C.C. demonstrated formulation difficulties, and pragmatic difficulties such as poor eye contact and sudden conversational topic shifts."

A psychiatric and neurological evaluation revealed no gross neurological impairments. C.C. was described as a child who is "not spontaneous in his presentations" and who maintained a guarded and restricted demeanor throughout the evaluation. There was no evidence of psychotic manifestations. The diagnostic impression was childhood onset pervasive developmental disorder—mild manifestation.

A physical therapy evaluation at 4 years 10 months of age indicated decreased muscle tone and postural instability: "He demonstrated good head control and appropriate protective, righting and equilibrium reactions, however, he appeared to be having difficulty with his sensory system functioning." Gross motor skills were mildly delayed, whereas fine and visuomotor skills were basically age appropriate, although some tasks were performed in an unusual manner

Occupational Therapy Evaluation

C.C. was evaluated with the Southern California Sensory Integration Tests (Ayres, 1972b), the Southern

California Postrotary Nystagmus Test (Ayres, 1977), clinical observations of posture and sensorimotor abilities, the Peabody Developmental Motor Scales (Folio & Fewell, 1983), the Parent/Teacher Play Questionnaire (Schaaf et al., 1987), and a free play observation form (Schaaf et al., 1987). C.C.'s parents completed a developmental and sensory history and interview.

The Southern California Sensory Integration Tests, Southern California Postrotary Nystagmus Test, and Peabody Developmental Motor Scales are standardized tests that measure aspects of sensory integration, vestibular functioning, and motor skills, respectively. The Parent/Teacher Play Questionnaire is a nonstandardized instrument that requires the parent or teacher to comment on the quality of the child's play and use of toys and activities during a given week. The questionnaire also includes questions on the child's language, social interactions, activity level, level of independence or dependence, and emotional status.

The free play observation form is a worksheet for the recording of play behavior during a nonstructured play period. The observer documents information in five areas: (a) toys played with, (b) interactions with the toys, (c) language or social interactions, (d) time spent with a given activity, and (e) any other information gained during the observation time.

Behavioral Observations

During the evaluation sessions, C.C. engaged in tasks for up to 5 minutes with assistance and redirection. He required frequent redirection because he became distracted and agitated easily. He enjoyed the unstructured gross motor evaluation items more than the fine motor and tabletop items, and he especially enjoyed pushing a large therapy ball around the room during testing breaks. He was excessively verbal, and his verbalizations were at times inappropriate. His speech was intelligible. Overall, C.C. appeared pleasant and slightly shy.

Results of Sensory Integration Testing

C.C.'s performance on the Southern California Sensory Integration Tests indicated significant sensory integrative dysfunction as part of his overall disability. The tactile test scores and clinical observations indicated tactile defensiveness accompanied by limited tactile exploration with his hands. C.C. scored below normal limits on five of six tactile tests and demonstrated aversion to tactile stimulation during tactile testing and clinical observations. These results supported reports of his developmental history in which he was described as demonstrating adverse reactions to tactile stimuli with increased activity level in response to tactile sensations and activities. In addition, C.C. continued to explore his environment orally, placing objects into his mouth, rather than exploring with his hands.

C.C. also demonstrated gravitational insecurity and dysfunction in the vestibular system. This was evidenced by his fear response during movement activities and in his overall responses during testing, including agitation and fear when guided onto suspended equipment or large therapy balls. His parents verified this observation, reporting that he is fearful of movement and playground activities such as sliding boards and merry-go-rounds. His postrotary nystagmus score was below normal limits (−1.5), which lends further support to the suspicion of dysfunction in the vestibular system. Although his righting and equilibrium reactions were normal, C.C. appeared to be using only vision to attain these reactions rather than a visual-vestibular response, perhaps because he was compensating for a vestibular dysfunction. Posturally, C.C. demonstrated mildly decreased muscle tone and moderate postural instability, especially in the shoulder girdle; this may also be related to vestibular system dysfunction.

Moderate motor dyspraxia was evidenced in a low Imitation of Postures score (−1.5) and in clinical observations of slow and fast upper extremity movement patterns. Poor praxis was also noted in free play observations.

Perceptually, C.C scored average and above average in three of four visual-perceptual subtests (Figure–Ground, Position in Space, and Design Copying). He scored significantly below average on the Space Visualization subtest.

Visuomotor test scores (Motor Accuracy and Design Copying) were within the normal range, with difficulties noted in manipulative hand skills during self-care and pencil and paper activities. In light of the normal visual-perception scores, these deficits are most likely related to motor dyspraxia rather than to visual-perceptual difficulties.

Results of Gross and Fine Motor Testing

The results of the Peabody Developmental Motor Scales indicated significant delays in gross and fine motor skills. C.C.'s gross motor skills were at an age equivalent of 34 months (a 34-month delay), and his fine motor skills were at an age equivalent of 40 months (a 28-month delay)

Results of Play Evaluations

C.C 's play behaviors were observed in the home by means of two ½-hour videotapes of unstructured playtime and three weekly play observations made by his parents; in the school by means of two weekly play observations made by his teacher; and in the occupational therapy clinic by means of two 10-minute free

play observations. Two occupational therapy students and I reviewed the above information and delineated the following baseline characteristics of C.C.'s play:

- A preference for playing with toys that he can structure, order, or sort (e.g., playing with toy cars, which can be lined up and sorted)
- A preference for parallel or solitary play
- A need to keep the environment as predictable as possible (C.C. repeatedly structured the children in his environment into activities other than his and structured or ordered objects in his environment)
- A preference for repetitive and movement-oriented activities (e.g., following a ball around in circles, pushing toys around in circles, riding a bike up and down the sidewalk)
- A preference for activities that involve cause and effect (e.g., pouring water, knocking down blocks)
- Little or no play with new or unfamiliar toys
- An interest in how things work
- Minimal imaginative play
- An enjoyment of toys that make noise
- A tendency to explore toys by smell or taste rather than by touch

Interpretation of Evaluation Results

On the basis of formal and informal test results, I hypothesized that C.C. demonstrates a sensory integrative dysfunction with its basis in the tactile and vestibular systems as part of his overall disability. He demonstrates tactile defensiveness, limited manual exploration with delayed hand skills, gravitational insecurity, and motor dyspraxia. This dysfunction has delayed the development of age-appropriate self-care, play, and motor skills and appears to contribute to negative behavioral patterns and academic difficulties.

Treatment

As C.C.'s occupational therapist, I treated him once a week for 1-hour sessions. In addition, I consulted with C.C.'s teacher and parents.

On the basis of the evaluation results, I established goals and objectives for occupational therapy in conjunction with C.C.'s parents (see the Appendix). Treatment consisted of sensory integrative and postural activities designed to meet the established treatment goals and objectives. The overall goal of treatment was to remediate the underlying sensory integrative dysfunctions that were interfering with C.C.'s ability to function adequately in his environment and that were interfering with his ability to assume appropriate life roles (e.g., student, player, sibling, peer). In keeping with sensory integration theory, I assumed that an improvement in underlying sensory integrative capacities would result in improved motor skills (as measured by the Peabody Developmental Motor Scales) and improved competence in interacting in the environment (Ayres, 1972a, 1979; Lindquist et al., 1982; Mack et al., 1982). A typical treatment session is shown in Table 1 and includes somatosensory activities (tactile, vestibular, and proprioceptive) aimed at normalization of the processing and integration of somatosensory information and the enhancement of body awareness and praxis; motor planning activities aimed at enhancing integration of somatosensory information into the planning of body movements; and fine motor and tactile activities aimed at decreasing tactile defensiveness and enhancing manual exploration and manipulation. The activities were sequenced to provide the opportunity for somatosensory integration at increasingly complex levels.

At the end of each treatment session, C.C. was allowed 10 minutes of free play, which I observed and

Table 1
Example of an Occupational Therapy Treatment Session With C.C.

Type of Activity	Name of Play Activity	Description
Somatosensory (tactile)	Wake up muscles	C.C. rubs his body with lotion, a brush, powder, terry cloth, or other texture of choice.
Somatosensory (vestibular and proprioceptive)	Vestibular activity	C.C. lies prone in a hammock while completing a clock puzzle that requires sequencing.
Somatosensory (vestibular and proprioceptive)	Airplane	C.C. pretends he is flying like an airplane while sitting on a medium-sized therapy ball and being tilted in various directions.
Somatosensory (motor planning and proprioceptive)	Limbo	C.C. must figure out how to move his body under a rope as he follows various commands such as "Go under the rope without your feet touching the ground," or "Go under the rope backwards with your feet first."
Tactile	Playdough	C.C. makes letters, shapes, and creatures with play dough.
Fine motor	Dinosaur mobile	C.C. makes a dinosaur mobile by tracing, cutting, and hanging dinosaur pictures from a support.

Note. Throughout the treatment session, C.C. is given choices of what game he would like to play (e.g., "Would you like to play with modeling clay or finger paints today?"). After most treatment activities, C.C. is given the opportunity to direct and structure the activity differently (e.g., "Can you think of another way to do this," or "How would you like to do this now?"). At the end of each treatment session, C.C. has 5–10 min of unstructured free playtime.

Table 2
Home Program Activities

Activity	Instructions to Parents
Tactile rubbing to decrease tactile hypersensitivity	Encourage C.C. to rub lotion or powder on his body after bathing. Also encourage C.C. to wash himself vigorously with a terry cloth washcloth during bathing and to dry himself vigorously with a terry cloth towel. Offer guidance and assistance as C.C. will allow.
Prone propping to improve shoulder stability as a basis for hand skills	Encourage C.C. to lie on his stomach propped on his elbows when he is watching television. Make sure he is not too close to the television, because this will encourage undesirable head hyperextension. Encourage C.C. to also play in this position.
Wheelbarrow walking to improve shoulder stability, vestibular integration, praxis, and antigravity muscle control	Assist C.C. in wheelbarrow walking down the hall from the bathroom to his bedroom in the evening.
Obstacle courses to improve motor planning	When C.C. is riding his bike, set up a few obstacles that he must maneuver around.
Household tasks to improve praxis and sequencing	Encourage C.C. to make his own sandwich for lunch, discussing the steps involved before he begins. Allow him to assist in folding simple laundry items such as towels and handkerchiefs, and demonstrate to him the sequence involved in folding. Additionally, encourage C.C. to assist you in preparing simple food items such as frozen juice, once again discussing the sequence involved in preparation.
Charting	Make a chart of the activities that C.C. needs to complete in the morning in preparation for school, such as getting dressed, eating breakfast, brushing teeth, and combing hair. This will help him to organize his morning routine and to keep up with his tasks.

recorded using my free play observation form (Schaaf et al., 1987). I also developed a home program (see Table 2), which consisted of a sequence of sensory and postural activities designed to further enhance C.C.'s sensory integrative capacities. These activities were incorporated into C.C.'s daily routine to increase the likelihood of carryover in the home.

Progress Record

C.C.'s play behavior progress during the 10-month treatment period was monitored with various methods. Play was observed in the clinic, home, and school by means of (a) bimonthly videotaped play observations in the home, (b) weekly use of a Parent/Teacher Play Questionnaire, (c) bimonthly free play observations in the classroom, and (d) weekly play observations in the occupational therapy clinic. Two occupational therapy students observed and recorded C.C.'s unstructured playtime in the school setting and videotaped his unstructured playtime at home.

After 10 months, I retested C.C. with the Peabody Developmental Motor Scales to determine any changes in motor skills. I also reviewed therapy notes during and after the 10-month treatment period. This involved the ongoing monitoring and reevaluation of goals and objectives based on my treatment notes.

Analysis of Treatment Progress

Data on play behaviors were reviewed with qualitative methodologies (Kielhofner, 1982a, 1982b; Merrill, 1985; Patton, 1980; Schmid, 1981), which involves the collection of descriptive data and a narrative summarization of the data. Behavioral trends emerged from the data, rather than being imposed on the data by the reviewers.

The data on play behavior were independently reviewed by myself and two occupational therapy students, and group meetings were then held to discuss and agree on patterns and trends of C.C.'s play behavior and to identify categories of behavior. For example, the group felt that an increase in tactile-based play was a category of behavior demonstrated in C.C.'s play record, so the progression of this behavior was reviewed.

In reviewing the patterns of play behaviors, we found that the presence of the student or therapist who actually observed C.C. was crucial. This enabled us to substantiate, negate, or qualify the observations based on firsthand observation, thus strengthening the use of qualitative methodology. For example, if the data stated that C.C. was rolling a large therapy ball around in a circle, the observer could qualify that this activity was repetitive and nonpurposeful in nature rather than purposeful and goal directed.

The scores for two administrations of the Peabody Developmental Motor Scales were also compared to determine the changes in gross and fine motor skill acquisition.

Results

Changes in Play Behavior

C.C. demonstrated several positive changes in his play patterns, as noted below.

Increased imaginative play. C.C.'s mother noted that he was playing more imaginative games with his sister, such as pretending that they were in different situations or were different people. In the clinic, we observed that C.C. was making bridges and houses with large bricks, whereas previously he had not constructed anything, he only stacked and sorted blocks.

Increased tactile-based play activities. C.C began to accept, ask for, and give more hugs to his mother during play activities and also began to enjoy activities that involved water In the clinic, C.C. occasionally requested tactile activities such as finger painting and molding clay during playtime.

Increased interaction with others. C.C. began to accept and interact with persons in his environment. He was observed to play for longer periods of time with his sister and to involve her in more of his play activities. Before treatment, C.C. was noted to ignore his sister or to direct his sister to an activity other than his own. He would become visibly upset when she tried to enter into his play. Improvement was also observed in the clinic, where C.C. made more of an effort to involve the therapist or other children in the clinic in his play rather than playing in isolation or in parallel play.

Increased attention span. An increase in the amount of time C.C. played with a particular toy or played without intervention from his mother was noted in the clinic and the home environments.

The above changes were most evident in the play data from the home and clinic settings. Play behavior in the school setting did not show any striking change, perhaps due to the lack of unstructured playtime that was observed (C.C. was often catching up on schoolwork during scheduled free playtime) or to the teacher's lack of commitment to recording her observations.

Changes in Motor Development

C.C. also made gains in gross and fine motor scores on the Peabody Developmental Motor Scales. His gross motor age equivalent increased 13 months to an age equivalent of 47 months, and his fine motor age equivalent increased 20 months to an age equivalent of 60 months.

Changes in Sensory Integrative Functioning

Improvements in tolerance of tactile stimuli and increased tactile exploration were noted as well as improvement in tolerance of vestibular activities and a decrease in fear during movement activities. Improvements in postural stability, body awareness, praxis, organization, completion of self-care activities, and handwriting were also documented. These changes were noted in both the treatment notes and play observations.

Discussion

The most striking finding of this case study, that changes in play behaviors occurred at the same time that gains in occupational therapy goals were documented, is consistent with a basic theoretical construct of sensory integration, that is, that improved sensory integration will enhance a person's ability to interact adaptively in the environment. For example, C.C.'s increased tactile-based play activities and increased interactions with others coincided with decreased tactile defensiveness and increased manual tactile exploration. An increase in imaginative play coincided with an increase in fine motor skills, a decrease in activity level, and an increase in processing and organization of sensory inputs. These results suggest that occupational therapy that uses a sensory integrative approach enhanced C.C.'s competence in interacting with his environment and that enhanced competence was demonstrated in play behaviors. Improvements in C.C.'s sensory integrative abilities appear to have influenced his occupational behavior. As he became more organized and better able to process and integrate sensory information, he became a more competent player

C.C 's improvements in gross and fine motor skills, although specific skill acquisition was not addressed in treatment, are also consistent with sensory integrative theory, that is, as integration and processing of stimuli improve, the child becomes more organized and can plan and execute motor skills more adaptively This potential relationship between sensory integration and motor skill acquisition warrants further investigation. Perhaps the improvements in motor skills, which occurred as a result of sensory integration treatment, influenced play skills, or perhaps the improvement in organization and integration of stimuli allowed for longer attention and practice of motor skills.

An increase in C.C.'s organization and completion of self-care tasks, although not specifically addressed in treatment, occurred at the same time that an increase in organization of play behaviors was noted and as an increase in integration and processing of inputs were documented in the treatment notes. These changes also reflect sensory integration theory, that is, that improved nervous system maturation will improve the quality of adaptive responses. This observation raises questions regarding the extent to which occupational therapy that uses a sensory integrative approach affects the acquisition and organization of self-care skills. Perhaps improvement in sensory integrative abilities allowed C.C. to organize his world more effectively and competently, and thus resulted in improved self-care abilities. Further investigation into the potential relationships of sensory inte-

gration to self-care skills may provide additional insight into this concept.

The videotaping of free play in the home and clinic environment proved to be the most valuable of the progress record methods used, because it allowed each reviewer to view and document the quality of play behaviors. The parents' responses on the Parent/Teacher Play Questionnaire and the informal free play observations made in the clinic were also a valuable means of gaining qualitative information about play behavior; they provided clues about C.C.'s interaction in the environment and how these may change during the course of treatment. The teacher's response on the Parent/Teacher Play Questionnaire did not provide consistent information regarding play behaviors in the school environment for the reasons previously stated, however, it may have the potential to do so. Clarification to the teacher regarding the purpose of the play observations coupled with increased involvement of the teacher in recording progress may improve the quality of information gained from the classroom.

The Parent/Teacher Play Questionnaire used alone or in conjunction with the videotaping of play behaviors appears to have potential for use in the clinic as an evaluation and monitoring tool. The information gained from these methods has the potential to be used as a means by which one can evaluate progress and structure treatment choices and home activities to include those activities that facilitate sensory integration, motor skills, and play.

Summary

The effectiveness of treatment methods on a person's ability to carry out occupational roles competently is of interest to occupational therapists. This case study demonstrated how play, as an occupational role of childhood and as a measure of competence, can be used to evaluate the effectiveness of occupational therapy that uses a sensory integrative approach.

The positive changes in C.C.'s play behavior support the basic philosophy of sensory integration, which states that an increase in sensory integrative functions will improve competence (in this study, competence is defined as play), that is, that a person will have the ability to carry out occupational roles in an adaptive and competent manner. In addition, improvements in other areas, such as the organization and execution of self-care skills and improvements in gross and fine motor skills, provide further support to sensory integrative philosophy. Further exploration of these concepts would add to a growing body of knowledge aimed at the documentation of the effectiveness and efficacy of occupational therapy interventions. ▲

Appendix
Sample of Goals and Objectives for Occupational Therapy

1. Normalize tactile processing as a basis for body awareness and motor coordination and motor planning of self-care, academic and play activities such as handwriting, sequencing of morning routine, and social appropriateness.
   a. C.C. will initiate tactile-based activities in free play on 4 out of 5 occasions.
   b. C.C. will consistently explore objects using his hands (not his mouth or nose) on 5 out of 5 occasions.

2. Normalize the vestibular system as a basis for body awareness, balance and equilibrium, motor skills, and the spatial orientation necessary for optimal performance in academic and social tasks.

3. Decrease fear of movement activities and improve tolerance to and enjoyment of age-appropriate gross motor play activities.
   a. C.C. will not demonstrate fear reactions to normal movement activities on 6 out of 6 occasions, as observed in therapy and as reported by his mother
   b. C.C. will choose to engage in movement activities during free play on 4 out of 5 occasions.

4. Improve postural stability and muscle tone as a basis for motor skills, thus decreasing cognitive energy directed toward these tasks and improving attention and concentration to academic tasks.
   a. C.C. will wheelbarrow-walk for 15 sec on 3 out of 3 occasions.
   b. C.C. will assume and maintain a prone extension posture for 10–15 sec with minimal exertion on 3 out of 3 occasions.

5. Improve body awareness and awareness of gravity and movement as a basis for motor planning and spatial orientation in self-care, play, and academic tasks.
   a. C.C., with his vision occluded, will identify 8 out of 10 body parts on 3 out of 3 occasions.
   b. C.C. will demonstrate minimal difficulty staying within the lines during handwriting and other visual spatial tasks on 3 out of 3 occasions.

6. Improve motor planning and motor coordination as a basis for fine motor–academic skills and gross motor–social skills.
   a. C.C. will complete an eight-piece obstacle course, forward and backward, with smooth, spontaneous, and fluid movement patterns on 3 out of 3 occasions.
   b. C.C. will demonstrate organization of body movements in play and academic activities, as reported by his mother and teacher and as consistently observed in therapy.

7. Improve gross and fine motor skills as a basis for academic skills (handwriting), play, and socialization.
   a. C.C. will demonstrate age-appropriate gross and fine motor skills, as measured by the Peabody Motor Development Scales (Folio & Fewell, 1983).
   b. C.C. will demonstrate age-appropriate play skills, as measured by play observation and as reported by his mother and teacher

8. Improve ability to structure and organize self-care, academic, and play activities.

a. C.C. will independently perform morning routine on 10 out of 10 days.
b. C.C. will get dressed and brush teeth independently on 5 out of 5 mornings.

9. Normalize activity level and attention span as a basis for self-care, work, and play activities.
   a. C.C. will play with a self-selected toy for 5 min during free play, as observed by the therapist on 3 out of 3 occasions.
   b. C.C. will complete a series of three self-care activities (e.g., get dressed, brush teeth, eat breakfast) with no verbal prompting from his mother, on 3 out of 3 occasions.

Note. A complete list of objectives can be obtained by writing to the author

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