

Mobility Training Using the MOVE[®] Curriculum A Parent's View

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Breanna is a 4-year-old girl who loves playing outside. Today she and her mom, Trellis, are taking a walk to feed the dogs, chase the chickens, and pick flowers. Though this might seem like a fairly common scenario for a parent and young child, it is quite extraordinary for Breanna and Trellis. Breanna contracted meningitis and encephalitis at 3½ weeks of age, resulting in cerebral palsy with a mixture of high and low muscle tone, limited strength for standing or sitting upright, and difficulty holding her head upright. Since that time, life for Breanna and her family has consisted of numerous doctors' appointments, regular therapy sessions at a child development center, and constant strengthening and stretching exercises at home.

This article presents an interview with Trellis, Breanna's mother, who is using a new mobility curriculum with her daughter. The interview provides a glimpse into Trellis's concerns and expectations for Breanna's future independence, as well as her feelings about the use of the curriculum. The article

also provides an overview of the curriculum and discusses Breanna's mobility progress.

A Parent's Search for Help

Despite continuous therapy sessions and Trellis's diligent home therapy program, Breanna still required significant physical assistance and was at risk for eventual hip dislocation. High muscle tone in her legs was causing "scissoring," which was increasing the degree of separation in her hip joints. Recently one of Breanna's doctors had recommended surgery to resolve the problem.

As with many parents of children with disabilities, Trellis was constantly searching for ideas and programs to help Breanna. After reading about the MOVE program (see section "How MOVE Works") in a Rifton Company catalog (1999), Trellis requested information on the program. She was sent literature and videotapes and was also given the names of two university professors in her area who were involved with training and research on the program.

A Find: How to Facilitate Mobility

After an introduction to MOVE, Trellis went through a 2-day training program to better understand the curriculum and how to implement it. As part of the MOVE program at home, Trellis was

encouraged to think of activity-based instruction opportunities. It was explained that mobility instruction should occur within typical daily activities that were functional for Breanna. Initially, Trellis selected activities if Breanna enjoyed them, and if mobility skills could be embedded within them. This included daily dressing, eating, bathing, and playing activities. Although Breanna was able to participate only partially in these activities and needed extensive physical support, Trellis continued to be interested and participate because of the motivation of the activity.

The physical supports or prompts used in the MOVE curriculum are designed to *facilitate* the use of mobility skills, not to *replace* them. In this case, prompts to help support weight, provide balance, and guide the legs for reciprocal steps were provided. These prompts were frequently provided by the mother and sometimes by the use of a gait trainer. The curriculum provides a guide for the use of prompts; however, as soon as prompts are implemented, a systematic plan for their removal is also developed.

Some of the activities Trellis selected to teach Breanna walking skills included feeding the dogs, feeding the chickens and checking for eggs, walking across the yard to Grandma's house, and picking flowers in the yard. Activities that required standing included washing

Mobility instruction should occur within typical daily activities that are functional for the child.



Breanna is playing hide-and-go-seek in the yard (one of her favorite games) while working on mobility skills.



Breanna is practicing sitting skills while watching her favorite videos. Her mother provides support only when needed.



With help from her mother, Breanna is now able to ride her bike. Motivation is the key to this activity.

hands at the sink, playing at the sink, and standing at the blackboard to play letter and number games. In these activity-based learning opportunities, Trellis took every opportunity to let Breanna physically participate to the fullest degree possible. For example, when learning games were to be played in the bedroom, the activity might start with Trellis helping Breanna to transfer from a sitting position to a standing position in the living room. Breanna would then walk with support to the bedroom and stand at the board while playing the game. Although it would have been easier for Trellis to have picked her up and carried her to the bedroom, the anticipation of playing the games motivated Breanna to participate in the mobility practice.

The MOVE Curriculum is typically used in school settings, where the team can measure and chart the students' progress. During this home-based implementation of MOVE, we asked Trellis to keep records of the progress that Breanna made while using the MOVE Curriculum. She recorded the number of steps taken during activities that required walking inside and outside. She also recorded the number of seconds of weight-bearing during standing activities throughout the day (see Figure 1). In addition, we conducted an interview with Trellis to present her per-

spectives on MOVE. A portion of the interview follows.

A Concerned Parent's Words

We know you were doing a lot with Breanna before MOVE. What made you want to try MOVE?

After I watched the tape of *Kids on the MOVE* (Barnes, 1997) and saw how much they were able to do, I was willing to try just about anything. It seemed like those kids were able to do so much after MOVE; and I thought, if they can do it, then so could Breanna.

Was this approach, the MOVE Program, different from what you were doing?

They [the people on the video] were doing things I wasn't doing. After I saw it, I thought, this makes a lot of sense. Before, I was getting Breanna to stand up and sit down from a chair and walk, but it was just like a lot of therapy exercises. The kids in the video were doing these things in regular activities. Now I can have Breanna stand up and sit down from the potty chair—she's being potty trained now! I was just moving her, but now we do these things all through the day in our regular routine. It's so much easier now that it is just part of what we do during the day, and we can practice standing and walking while playing.

We know that in the past you were discouraged because you were doing so much for Breanna and you were worried about the future.

I had gotten frustrated because it's like I told my husband: I said that I don't want to sit here and hold Breanna for the rest of her life. I want her to get up and walk; I want her to be independent. I want to have a little time to do something I want to do, and that's the reason I'm pushing her now and doing what I do. I don't want to do this for the next 20 years. I got discouraged and talked to the doctor about it one time, and she told me I needed to just take a little break and find a hobby or do something.

Did you follow the doctor's advice?

I have backed off, and I don't do as much as I did before; and the reason is last year I got really stressed out. I just wore down. We were doing so much on

In these activity-based learning opportunities, Trellis took every opportunity to let Breanna physically participate to the fullest degree possible.

Figure 1. Breanna's Mobility Progress

First Week—11/8/99 to 11/15/99	Last Week*—4/16/00 to 4/23/00 *end of data collection and recording
Mean Number of Steps Taken (with adult assistance)	Mean Number of Steps Taken (with adult assistance)
15	509
Mean Number of Steps Taken (with gait trainer)	Mean Number of Steps Taken (with gait trainer)
0	125
Mean Time Standing 45 seconds	Mean Time Standing 4.02 minutes

weight-bearing a day and so much of this and so much of that. By night if I didn't do everything I had planned, I would just almost freak out because I didn't do what I wanted to do; and I just thought the more I do, the better she's going to be. I guess that's true to a point, but I've also realized that after speaking with a therapist and a doctor, I've got to let her be a little girl too and let her have some free play time. So now I try to incorporate training when she's having a fun activity; I make her walk to it, I don't push her, and we take our time a little more. I just don't rush her from place to place like I did before, because I had these goals set that by a certain time I would have this done or that done, and I was just wearing myself out.

So maybe now you're accomplishing as much but enjoying it more?

"It's so much easier now that [exercise] is just part of what we do during the day, and we can practice standing and walking while playing."

—Breanna's mother

I think so; I don't feel guilty now—I feel better. I used to have my list of exercises and practice to do, and if I didn't do my list, I felt frustrated. I just wanted a break, but now the practice is like playing. It's more enjoyable for the whole family. My husband, Jeff, has always wanted to be involved with this, but he wasn't sure what to do. Now we go outside and play hide and seek. We've found that one thing she likes is our pond. We can go catch fish in the pond, and we'll drive the golf cart down the hill. Jeff will drop us off at one point, and he'll go somewhere else. We'll have to walk to where he is to help get the fish off [the hook], and she thinks that's fun. So she's getting in walking while we have fun and play together.

Now that you've been through the MOVE training and after you've been using the MOVE Curriculum, what are your thoughts about the program? Do you think it has helped you accomplish any of your goals?

Oh, I know it has. For instance, like the steps in front of the sink. You know, I never thought about putting steps in front of a sink and making her walk up the steps to wash her hands. Normally, what I would have done is pick her up and hold her over the sink and wash her as best I could. Now if she wants to go somewhere, you know, I'll stand her up,

and instead of just picking her up, I'll make her push up with her legs and use her muscles to stand up; and then we'll walk to where she wants. If she wants to go to her room, I make her walk. I don't just pick her up and carry her like I did most of the time, and I think that's why she's developed the strength that she has in her legs because she's using them more.

Can you give us an example of one thing that she wasn't doing before starting the MOVE program that she is doing now?

When we first started her measurements in the hallway, like with me holding her arms, her most steps when we first started was about 20. Then I remember when it got up to 50 and 60, the length of the hallway; and we were running out of space to measure. So now we measure outside, and she has gone 500 steps without stopping for more than 20 seconds.

In the year that we have known you and have worked with you, we have become aware of your expectations for your daughter. In general, do you think adult expectations of a child's success or failure has an effect on the child's overall performance?

I do. I say that I have high hopes for Breanna. She's already successful in moving from where she was to where she is now. She's done nothing but improve. I don't ever see her getting any worse, or I hope I don't. Because I see her improving, I push her. I want her to know that I know she's going to do it, and I push her and challenge her to do it. If I thought she wasn't able to do it, then we wouldn't even attempt it; and then, who would know? She might not ever do it.

Has this project made you change your expectations?

I still have high expectations for Breanna, and I always wanted her to walk independently without any supports. I guess I had too many expectations a year or a year and a half ago, because I thought she would walk by age 5 or 6; but I really don't think now that that is a realistic goal. She has progressed, but more slowly. Now I think it

will be later. That's changed, but I don't think it's because of the MOVE program. It's just that I think I was expecting too much. I wanted too much too early.

Do you feel okay with this slower rate of progress?

Yes, I'm fine with that. I want her to be as independent as possible, and if she never walks without supports—I mean if she has to walk with a walker, or crutches, or a cane—that's fine because I don't want her to always have to rely on me to hold her. I want her to get around and be the most that she can. If she's 10, that's fine; I mean, she has many years after 10, I hope, to live and enjoy life.

You've mentioned in past conversations that a few people have tried to discourage you. Can you think of anything specific that anyone has said that has discouraged you or that has made you . . .

Mad?

Yes.

Yes, one of her orthopedists. He told me this child would never walk; and I said, "No, you're wrong, and one day I'm going to bring her to your door; and you're going to see her walk to the opposite end of the room." I don't take that lightly. No, every child is different, and she may not walk without supports; but if she's able to walk at all independently and in any shape or form, she's walking.

Did he say why he thought that?

He said that from his experience, and he said that he could tell by his experience that she would never walk, comparing her with all the other kids. That was basically what he told me. He said that she would not be able to sit up independently, and he sat her up on his table. Well, for one thing, she was crying and screaming her head off, and she was so upset that she just reared back and she wouldn't even try to do anything for him. And he just said, "Well, I tell you, she's never going to walk."

When we started this process you had switched doctors. The doctor that you

were seeing at that time was thinking that surgery might be needed.

Yes, let me tell you, we went back to the doctor, and when she went, she had subluxation on her right hip at 28%. That's what it was calculated at. When we went to the doctor in March, it was down to 23%; and it's actually gone back in a little into her socket.

That's wonderful. Did the doctor comment about that?

He said it was because she was up and mobile and getting weight through her legs and hips. He said that she was improving.

That's great.

So he told us that because her hip was doing well, we wouldn't need another visit for 6 to 8 months.

So now he's not considering surgery this time?

No.

"I want her to know that I know she's going to do it, and I push her and challenge her to do it."

—Breanna's mother

Good. So all of that walking that you have been making her do seems to be helping. What was it like trying to get Breanna to walk more when she had been used to being carried?

I think it was hard for her, and she wouldn't try as much; but now because she is so much stronger and her muscles are not as tight, she's got more control. Weight shifting is easier for her, so she's going to do more. Now, she knows she can.

And does she seem to enjoy walking more now?

Oh, yes, she likes to do things she's not supposed to. If it's something that she

wants to do, like play hide and seek, or go outside and pick something, or chase a ball, or chase a rooster, she'll do it. One day, when we were walking down the road, she started looking in the direction of my parents' house, so I asked her if she wanted to go; and she gave me a kiss for yes. I said okay, we'll go and walk down there (about 600 feet). So we did. She was very determined, and she got almost all the way—she got to their yard before she gave out. But she wanted to go.

You have found that there are more things that she wants to do now. Do you think motivation plays a role in her accomplishments?

If she doesn't want to do something, there's really no competition. That's why I've got to find things that are fun and motivating. Because if I tell her, let's walk to your room, we're going to get on the bolster and wedge to exercise, she's not going to go. And I know she's not. But if I tell her to go to her room because we're going to paint, she'll go.

You have mentioned that she seems to have better head and trunk control now. Has this made it easier to do other things around the house?

Yes, I can . . . just hold her. I mean, if we're standing and not walking, I have let her go and not helped her; and she has stood on her own for a couple of seconds. I can just barely have my arms on her, and she's fully supporting herself. I mean she's supporting herself even when I have my arms wrapped around her; but if I just let go and loosely touch her just so she knows I'm there, she'll stand. She's got so much more strength and control and balance.

Now that Breanna is more mobile, do you see changes in her relationships with other people?

I know I've told you before that Breanna is hard to handle physically. I mean, she has her special needs; and other people didn't know how to do her therapy. They would just carry her, but now they can walk with her because she can stand upright more. They can stand her on the ground and hold her arms rather than just carry her.

What would you recommend to other parents who have children with similar disabilities?

I think all parents ought to know that the more they do for their children when they are young, the more independent they're going to be and be able to do. Breanna's improved a lot since you first met her. I want parents to know that if they work with their children, they can do better, and they will improve.

Trellis, this is wonderful information. Is there anything else that comes to your mind?

Well, you gave me some ideas when we started the [MOVE] program, and I thank you both for helping her and helping us. You gave me a lot to think about. Before, I was more interested in saving time, and that's maybe why I would pick her up and carry her instead of waiting for her to walk. But I found that she got so much more out of it when I helped her to walk from here to there. Instead of trying to save 9 minutes of time, we were better off taking the 10 minutes. Before I started the program, I didn't make her walk as much because I would carry her a lot to quickly get to the place where we would do our exercises. Now I make her go that extra distance and I think that's why she's improving like she is.

Another example of what she is doing now happened just the other day at my sister's house. I had to run to the bathroom before lunch to wash up. My mom and my sister were in the kitchen fixing us some sandwiches. I put Breanna on the couch with Jordan, her cousin. I told Jordan to sit beside Breanna and not to let her fall off. She

"If it's something that she wants to do, like play hide and seek, or go outside and pick something, or chase a ball, or chase a rooster, she'll do it."

—Breanna's mother

wouldn't fall off anyway because she can sit on a couch by herself now. So I went to the bathroom, and the next thing I knew my mom and sister were hollering, "Come here, come here, look at Breanna!" She had gotten off the couch and was standing holding the couch and just laughing. And they swore up and down that they did not help her, and Jordan had gotten down and come to the kitchen. When she did, they looked to make sure Breanna was still okay, and she was sitting on the couch. And the next time they looked, she had gotten off by herself. I think she must have seen Jordan getting off, and she did it, too. I put her on the couch and told her to do it again, and she wouldn't do it. But, she's done it once, she's going to do it again.

That's like when she walked from here to my parents'—she can do it again. It may not be today, and it may not be tomorrow. It may take her a few days, but she will do it again.

How MOVE Works

The MOVE Curriculum helps to provide the support, the motivation, and the high expectations to facilitate the development of functional motor skills. Although this can be accomplished in a variety of settings, such as the home, the curriculum is ideally suited for the school environment (see box, "MOVE Foundations").

Team Approach

Adopting the MOVE Curriculum allows the school team to develop a common focus based on the family's goals and dreams. Related services, such as occupational therapy and physical therapy are then embedded into meaningful activities that incorporate the skills needed to achieve the goals. MOVE uses data-based instruction in which repeated measures are taken on both student progress and the level of support required. Physical support from adults or equipment is provided to allow partial participation in the activity; and the support is reduced as skills increase. In this approach, eating lunch may change from a daily routine to a daily instructional opportunity, as follows:

- Transitioning from sitting to standing.

- Bearing weight (to wash hands at sink).
- Taking reciprocal steps (walking to and from table).
- Maintaining balance in a traditional classroom chair (while eating).

Within the structure of meaningful activities, the team can also incorporate functional academic, communication, and socialization goals. This allows educational teams to write integrated goals that focus on the needs of the individual, rather than on the isolated skills of specific disciplines.

Integrated Curriculum

MOVE is a top-down, activity-based curriculum designed to teach people with physical disabilities the basic, functional motor skills needed for greater participation within home, school, and community environments (Kern County Superintendent of Schools, 1999). The curriculum was developed by Linda Bidabe, a teacher in Bakersfield, California, who was frustrated with the lack of progress of many of her students who had severe disabilities. She recognized that small developmental gains in motor skills frequently gave way to growing bodies and that many of these students remained in wheelchairs, or returned to them, before they ever achieved independent mobility.

Bidabe's solution to this situation was to focus on the functional skills of standing, walking, and sitting, as opposed to prerequisite or developmental skills, such as raising head from a prone position, rolling over, and crawling. In this "top-down" approach to program planning, the team selects instructional activities and basic skills, based on functional outcomes, and incorporates instruction into routinely occurring events dispersed throughout the day. Assessment, planning, and instruction are accomplished through transdisciplinary teams that include parents, educators, and therapists who work together to achieve the family's goals for the student.

MOVE was developed on the following foundations:

- *Functional Curriculum*—Learning occurs within meaningful activities.

MOVE Foundations

The MOVE Curriculum was first implemented during the summer of 1986 at the Blair Learning Center in Kern County, California. This pilot study was conducted with 11 students over the age of 7 with severe physical and cognitive disabilities. These students were chosen because they were typical of children with severe disabilities who frequently show regression in basic skills as measured by typical developmental scales after age 7.

Before this project began, only two of the students could sit or stand without support; and three could bear weight while standing. By the end of the 8-week program, nine students could sit in a chair without support, three could walk with support, and one student could walk independently (Kern County Superintendent of Schools, 1999).

Encouraged by these initial results, the teachers, parents, and staff implemented the MOVE Curriculum in September of 1986 and documented student progress in sitting, standing, and walking skills for 3 years (Bidabe, Barnes, & Whinnery, 2001). Based on these informal documentations of the program's effectiveness, more formal research is warranted. Empirical studies are needed to show a relationship between an increase in functional sitting, standing, and walking skills and the use of the MOVE Curriculum, that would help to establish the internal validity of the program. These efforts have begun. Barnes & Whinnery (in press) conducted a multiple-baseline, single-subject study with five students with severe and multiple disabilities. All students demonstrated increases in functional mobility skills during intervention or during maintenance over the following 2 years. With the encouraging results from this initial study, it is now necessary to replicate this study in other settings with different students.

In addition, we need to examine the underlying principles on which the program is developed. This will help validate the continued use of the program (Vockell & Asher, 1995). Barnes and Whinnery (1997) examined the foundations of the MOVE Curriculum and argued that MOVE incorporates many of the currently accepted principles of development, as follows:

1. MOVE follows a top-down, or ecological, approach (Orelve & Sobsey, 1996; Snell & Brown, 2000), as opposed to following a developmental hierarchy, based on the student's deficits.
2. MOVE uses an integrated-therapy concept (Dunn, 1991; Rainforth & York-Barr, 1997) in which services are provided within activities in natural settings so that performance is functional and meaningful for the student.
3. The MOVE Curriculum incorporates the "dynamic functional perspective on motor development that currently drives most research on motor development" (Campbell, Vander Linden, & Palisano, 2000). In this perspective, the outcome of purposeful behavior is the product of the interaction between the body and the environment (Heriza, 1991; Horak, 1991). Thus, the task demands and environmental adaptations and support, as emphasized by the MOVE Curriculum, are equally as important as neural maturation in the development of motor skills.

Although formal validation of the program has yet to be established, documentation from informal studies, anecdotal reports from parents and teachers, and the incorporation of established principles support the use of the program. Because of this early success, use of the MOVE Curriculum has grown rapidly and has spread to at least 26 countries. It is currently published in 11 languages. MOVE International, a nonprofit foundation based in Bakersfield, California, was established to provide training and information to people and schools interested in the curriculum. For more detailed information on the MOVE Curriculum, see Bidabe et al. (2001) or contact MOVE International (1-800-397-6683).

- *Natural Environments*—Skills are practiced where they will be used.
- *Family Centered*—Family priorities are an essential part of MOVE.
- *Integrated Therapy*—Team collaboratively plans, sets goals, and intervenes in students' natural environments.
- *Partial Participation*—Students participate in meaningful activities to the greatest degree possible.

MOVE uses motivating activities to teach functional mobility skills that

- Are age-appropriate.
- Increase independence.
- Increase access to the community.
- Reduce custodial care.

- Promote communication, social, and daily-living skills.

Final Thoughts

When working with individuals with limited mobility, it is important that the adults who are facilitating learning have high expectations and provide multiple opportunities for practice. This task can be challenging.

As an integrated, engaging, and motivating approach to education for students with mobility and other needs, MOVE holds great promise for teams of educators, students, and families. As Breanna and her mother discovered, learning independent skills can be fun and can lead to great strides in learning and improvement.

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