

## Early Long Cane Use: A Case Study

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### Abstract

This article will present a case study of an Australian child with emphasis on the early use of the long cane. "T," who has no light perception, began orientation and mobility training, including the introduction of the long cane, when she was 14 months of age. The article will discuss the philosophy of introducing the long cane at such a young age and will demonstrate the importance of collaboration between the orientation and mobility specialist and other professionals, such as early childhood teachers. For very young children, a long cane becomes more than just a means of moving around safely. It becomes a tool for exploration, play, and independence. The value of peer support also is discussed, using the example of a weekly group that T attended with other young long cane users.

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"T" was born in 2003 with a diagnosis of Leber's congenital amaurosis and was assessed as having no light perception. She has no other disabilities. She was referred initially for orientation and mobility (O&M) training in 2004 at the age of 14 months, when she was just beginning to walk independently and had good, stable balance. Her fine- and gross-motor skills were also at an age-appropriate level. This article will discuss the use of the long cane with T, from the age of 14 months until the age of 4 years 6 months.

Initially, it is valuable to briefly review the history of the use of long canes with young children. There is no shortage of literature stressing the importance of early intervention in the area of mobility for children with vision impairment. Indeed, as far back as 1957, Norris, Spaulding, and Brodie (as cited in Shon, 1999) stated "that favourable opportunities for early learning by children with visual impairments are more important in determining the child's functioning level than the other factors, including their vision loss" (p. 3). Furthermore, the importance of motor,

concept, and sensory skills development has long been stressed in the literature (Cratty, 1971; Ferrell, 1979; Hill, Rosen, Correa, & Langley, 1984; Warren, 1984). However, it was not until the 1980s that the unique needs of infants and preschoolers began to be considered as a component of the definition of O&M instruction by authors such as Hill, Rosen, Correa, and Langley (1984), Poggrund and Rosen (1989), and Schroeder (1989). Poggrund and Rosen discussed the traditional arguments against the early use of the long cane, including

- Lack of motor control and coordination
- No use for the cane in familiar environments
- Lack of maturity
- Fear of injury to others
- The development of poor cane habits that would be hard to correct in the future

The authors ultimately concluded that "almost any blind child who is able to maintain balance while walking and who is able to hold a cane is a candidate for cane introduction" (p. 436). They also acknowledge that this view "may appear somewhat contradictory to the traditional O&M framework and philosophies" (p. 438).

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In a study on the Connecticut precane, Foy, Von Scheden, and Waiculonis (1992) stated that “children ... need optimal protection to foster confidence in moving but lack the kinaesthetic awareness, motor control, mental discipline, and responsibility to achieve adequate cane usage in a reasonable time” (p. 178). There is still little formal research in this area, but observations of children using long canes are showing these beliefs not to be true in all cases. The difference lies in the way young children are taught—they are not “little adults”; therefore, teaching them with traditional adult-centered techniques will not be successful. My philosophies toward working with very young children changed when I had exposure to the teaching skills and philosophies of early childhood teachers. My O&M training initially included very little on working with children, and my early training with children certainly did come from an adult-centered perspective.

Joseph Cutter (2007) described a new philosophy of O&M: “The goal of O&M is the independent movement and travel in blind children at an age/stage appropriate time so that children develop the perception of themselves as active movers and independent travellers” (p. 2).

Among his philosophies of what he terms the *promotion model*, Cutter (2007) suggested that

- “Child development is built from gain not loss” (p. 11).
- For children who are blind, “success is not measured by how much vision they have, but rather built on how many skills are developed for independent movement and travel” (p. 11).
- With one skill built upon another, the goal is mastery over the environment in order to move and travel safely, confidently, and independently.

When discussing the differences between working with an adult with adventitious blindness and a child with congenital blindness, he notes that adults are traditionally taught using a “top-down” process. Children, on the other hand, need to be taught using a “bottom-up” process. In other words, “out of the experience comes the concept” (p. 11). Of note, Cutter (2007) suggested that children who are blind learn to be responsible for their own travel when they have the opportunity to learn the necessary skills. They can then self-monitor their movement, practice

independent movement and travel skills, and have the opportunity to develop good judgment and decision-making skills.

So how did O&M training commence with T when she was referred at the age of 14 months?

Human guide skills were introduced from the very beginning. This involved T holding my fingers using the palmar grasp. As she got older and taller, the grip progressed to holding my wrist, and eventually will become the traditional grip above the elbow. The reason for introducing guide technique at this young age is that it establishes the technique T will use over her life. It also lets T take control by allowing her to either accept or refuse the offer to be guided. It is not easy to let go of an adult holding your hand! In addition, it develops an appropriate means of mobility at a very young age—holding an adult’s hand becomes less appropriate the older the child is. It is very important that a human guide be seen as a passive, not an active, form of movement and to remember that using a human guide is not independent mobility.

We also developed basic independent travel skills, such as trailing, squaring off, and body protection—a modified “bumper” technique involving having two hands clasped together in front of the body with the arms stretched out straight—a technique we called “safe hands.” These skills were reinforced any time that T was walking independently through space. More formal upper and lower body protection skills were introduced around the age of 3. However, I found that these skills were often tiring and were used inconsistently, in which case the use of safe hands was encouraged. The philosophy behind this was that whenever T was walking through space independently without her long cane, she would use some form of body protection. By the age of 4, she was using upper and lower body protection correctly and when required (generally in indoor areas where the long cane was not being used).

When T was first given a long cane, she was 14 months old. This was at the same time that human guide skills were introduced, and we began by going for walks with T being guided and holding the cane in the other hand. As she became more confident with the cane, she began to let go of my guiding arm and walk independently, usually following my voice. Initially, she also spent a lot of time exploring what the cane is, and what the cane does. She used the

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same strategies that she would use with any new object placed in her hands—she felt it, chewed it, banged it on the ground, and banged it on the walls. Sometimes she would be bored with it in a few seconds; other times she would play with the cane for quite a long period of time. T's cane, with some help from her mother, was christened Tinkerbelle, and we found that it helped to personalize the cane for her and make it part of the family. T's family was encouraged to take Tinkerbelle out with them whenever they went anywhere, whether or not T chose to use the cane. This strategy helped to establish the association of having a cane available, particularly in unfamiliar environments.

As T became more familiar with the cane, a few ground rules were established. Most important was keeping the cane on the ground—most of the time. There were times when T would want to use the cane to reach up (a tree trunk to see how high it was, for example), and this was accepted because it was providing her with an opportunity to problem solve and develop concepts. We also began to refine the grasp so that she had her index finger pointed down the grip. This skill was established and used consistently between the ages of 3 and 4 years. It should be emphasized that T was initially using the cane in a diagonal position. Once she was comfortable walking alone with the cane, constant contact technique was encouraged, but there was no emphasis on keeping in step at this stage. Arc width was monitored, and generally T used the cane with an appropriate arc. These skills will be further refined once touch technique becomes the primary technique used with the cane.

Until around the age of 3, T would still confirm surface changes and drop-offs with her feet, even though the cane was in front of her and was detecting these. I found that initially T, and other young students with whom I was working, would notice the surface change through the cane but would squat to the ground to feel for it with their hands. It varied among children, but they all reached an “aha!” moment when they understood that the cane was detecting a surface change two or three steps in front of them. The understanding that the cane detected obstacles occurred early, although it was not always consistent, which is to be expected when using the cane in a diagonal technique. This behavior was monitored carefully, and T was allowed

to make contact with obstacles providing it would not injure her in any way. These opportunities were used to reinforce that the position of the cane was important in detecting obstacles and was refined over time as cane use improved.

O&M lessons were not formal in any way—the emphasis was on having fun and exploring the environment. T was encouraged to use her cane but was given the choice as to whether she wanted to be guided or to use independent travel skills without the cane. In this way, her O&M skills were established in a very holistic way. Certainly, she did not need to learn a set of “pre-cane” skills prior to the cane being introduced. T was naturally very curious about her environment and enjoyed exploring it. She was highly responsive to sound cues, which were incorporated in orientation and made it easy to encourage her to move independently through space. Over time, she tended to choose to use her cane over other methods; eventually it became automatic for her to pick up her cane when she wanted to travel independently. Lessons were conducted in a variety of environments, including her home neighborhood (from an hour spent “exploring” the front yard to walking the length of the block climbing every tree along the way!) and a sport and recreation center, where I took T exploring with her cane while her mother played sports.

The exposure to peers who also use long canes was invaluable. Braille Nest is a weekly group for children who will use braille as their primary literacy mode and was set up to enable contact between families and children with vision impairment (Scott, 2008). All children who attend Braille Nest are part of an inclusive education system in their local schools where they are generally the only child with a vision impairment. T attended her local kindergarten and was being enrolled in her local primary school. The majority of the children attending Braille Nest have long canes, and we were able to use the older children as role models for the younger ones. During one lesson with T, we were talking about why I wanted her to have her index finger extended along the grip of the cane. We listened to an older child using touch technique, so I explained to T that we practiced having our finger stretched out because that was important for skills that “bigger kids” used. She was 4 years 6 months at this stage and immediately wanted to try the bigger kids' style, that

is, touch technique. My initial reaction was that she would be unable to do this, but she actually could produce touch technique for short periods of time and continued to do so spontaneously (usually when she heard the older children using the technique).

Collaboration is essential in all early childhood O&M programs (Correa, Fazzi, & Pogrund, 2002). In this case, this was most successfully achieved by having the early childhood teachers and the O&M specialist working alongside one another at Braille Nest. There were also regular joint visits to T at home and later at kindergarten, where the early childhood visiting teacher, the classroom teacher, and the education assistant were active participants in O&M lessons. All early childhood teaching staff who work with T are therefore aware of the O&M techniques and terminology being used and consistently reinforce them. Her family was also closely involved, observing teaching sessions and learning skills themselves so they could reinforce and teach T when required. This program was successful because T's family, her teachers, and other early intervention professionals were strong believers in, and advocates for, the development of early O&M skills, and in particular, the right of young children to learn to use the cane. It also allowed for terminology and techniques to be used consistently.

Good O&M skills help the child become part of the class when he or she goes to preschool/school. T had been using a long cane for close to 4 years before she began to attend kindergarten, ensuring that cane use was already an integral part of her life. Education in the purpose and use of the cane, as well as in human guide techniques, is always provided to peers and school staff, and peers become very used to the cane quickly. This education is particularly important when the child is the only long cane user in the school, as was the case here.

In addition, I have found that the expectation of independence will help foster independence. Chil-

dren quickly take the responsibility for their long cane if you encourage and expect it. The development of these positive skills prior to the child starting school ensures that the child is seen as independent and competent from the very first day.

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