Beginning power mobility: A knowledge translation activity

Roslyn Livingstone

Occupational therapists are encouraged to make their practice evidence based and this involves integrating the best research evidence along with clinical expertise and client needs and values. Factors that may inhibit the uptake of research evidence into clinical practice include; a) lack of accessible, credible evidence, b) lack of time for reading and putting new ideas into practice, c) organizational factors such as policy and departmental climate, and c) preference for experience over research evidence (Humphris, Littlejohns, Victor, O’Halloran & Peacock, 2000).

Lavis and colleagues (2003) suggest a framework that is helpful for effectively transferring research knowledge into clinical practice as well as policy and research settings. It is based on five questions:

- What message should be transferred? To be considered transferable, messages should be actionable and not the results of a single study or report.
- To whom? Decide which messages are directly relevant to which audience e.g. clients, colleagues, policy makers, managers or researchers.
- By whom? Who is the best, most credible messenger for each message and audience?
- How? Methods could include educational materials, conferences, outreach visits, local opinion leaders, patient mediated interventions, journal clubs and so on. Methods that involve active engagement with the information tend to be more successful than passive dissemination methods.
- With what effect? How will you measure the success of your strategy and what outcome do you want to achieve e.g. change in attitude, practice, knowledge, policy etc?

This article describes use of the above framework to develop a knowledge translation plan to address a knowledge gap in the area of paediatric powered mobility and was part of the author’s graduate degree coursework.

Knowledge gap

The ability to move around independently to explore the environment has been shown to be very important in the early development of young children (Kermoian, 1997). Research suggests that using powered devices to augment mobility can impact on social, communication, and cognitive skills as well as increasing assertiveness, independence, and self-esteem (Hardy, 2004). Cerebral Palsy (CP) is the most common and disabling chronic condition of childhood. Many children with more severe forms of CP (Gross Motor Function Classification System (GMFCS) levels IV and V) will be unable to achieve efficient independent mobility without use of powered devices (Palisano et al., 1997).

Despite considerable evidence that children as young as 18-24 months can become powered wheelchair users, surveys show that power mobility is underused with young children (Toole, 2004) and particularly with young children with CP (Palisano, Tieman, Walter, Bartlett, Rosenbaum, Russell et al., 2003). Clinical experience in British Columbia also suggests that therapists and families tend to delay consideration of power mobility with young children with CP until other strategies have been exhausted.

This knowledge translation activity was begun with the hope that developing accessible evidence could

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help change knowledge and attitudes with both therapists and families, and lead to increased use of power mobility with young children with CP. It was also hoped that we could encourage policy change to allow increased access to loan and training equipment for young children who may not be ready to have a power chair as their primary mobility method.

How it began...
A literature search, regarding power mobility use with children diagnosed with CP, was undertaken in May 2007. All articles were found on either MEDLINE or CINAHL. The key words used were: Cerebral Palsy, Children, Power Mobility, Powered Mobility and Wheelchair/powered. Unpublished theses were obtained by contacting researchers directly. Articles were selected if they described original research involving children with CP, were written in the last ten years, and addressed developmental impact of power mobility or issues of assessment, training or readiness.

What was found...
Seven articles were identified from the literature review (Nilsson & Eklund, 2006; Furumasu, Guerette & Tefft, 2004; Jones, 2004; Nilsson & Nyberg, 2003; Deitz, Swinth & White, 2002; Bottos, Bolcati, Sciuto, Ruggieri & Fellicianigeli, 2001; Nilsson & Nyberg, 1999). From these studies the following transferable messages emerged:

- Use of a powered mobility device may enhance overall psycho-social development and independence in young children with CP.
- Using powered mobility at a young age will not impede development of independent ambulation or other motor skills.
- Children with CP who have a poor prognosis for independent mobility require assisted mobility opportunities at the same age as their typical peers in order to promote overall development.
- IQ and cognitive readiness tests do not predict which children with CP will become functional powered chair users.
- Children with CP will need more time and training than other children learning to use powered mobility. Potential cannot be determined based on a short term trial.
- Young children may learn to use switches and joysticks in a powered mobility device more easily than with toys or computers.
- Initial training in therapy sessions is helpful before the child is ready to use the power chair in daily life.

A knowledge transfer plan was developed with messages for parents, therapists, policy makers and researchers. The parent section is outlined in Table 1 as an example.

Progress so far...
A parent handout has been completed, structured around questions that were identified by therapists in the community and at Sunny Hill Health Centre for Children. These questions included:

- Why is independent mobility so important?
- Is my child too young?
- How will power mobility help my child?
- Will power mobility stop my child learning to walk, or to use a manual wheelchair?
- Which children with CP should use power mobility at an early age?
- What is the best way for my child to learn power mobility skills?

A one hour presentation for community therapists has been completed. This presentation reviews the evidence uncovered during the literature review. Questions are used throughout to encourage participation and discussion. The presentation is designed to be presented as part of Sunny Hill Health Centre for Children’s educational outreach mandate. Preliminary feedback to the parent handout and presentation has been positive. Therapists particularly like having the handout to enable them to discuss the issue of augmented mobility with parents.

Work still to be done...
So far we have only informally evaluated the impact of the materials prepared but a questionnaire will be developed to evaluate these more formally. The materials and methods to address messages for policy makers, managers, and researchers are still to be developed.

For further information
The parent handout and presentation are available through the website: www.childdevelopment.ca under the seating and mobility and wheeled mobility sections.
• Power mobility equipment may help your child become more independent and increase learning, social and communication skills.
• Using power mobility equipment will not stop your child developing their own motor skills.
• If your child has been classified as GMFCS level IV or V, power mobility equipment may help your child become independently mobile.
• Your child may need a long period of training to learn to use power mobility equipment. Practising skills in therapy sessions may help him/her prepare for his/her own power wheelchair.

**Audience**  
Parents of young children with CP

**Messenger**  
Therapists working directly with the child and family

**Knowledge Needs or Justification**  
• Parents need to understand the research evidence regarding potential for independent mobility in children with CP
• Many parents see adaptive equipment as a last resort and as a failure, or giving up on the potential for ‘normal’ development.
• Power mobility should be introduced as part of a range of mobility options that their child may use.
• Parents need to be informed about the benefits of independent mobility on the their child’s overall development

**Knowledge transfer strategy**  
**Implementation plan**

<table>
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<tr>
<th>Parent Handout</th>
<th>Resources required</th>
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| • Survey therapists to identify questions asked by parents when topic of power mobility is introduced  
• Develop parent friendly handout framed around these questions and based on transferable messages identified from literature review.  
• Pilot handout with some parents, Sunny Hill therapists and community therapists  
• Modify handout based on feedback  
• Develop final version of handout and have passed by Health Centre committee.  
• Handout available in Sunny Hill Library  
• Outreach education sessions to community therapists – provide handout as a resource  
• Handout available on website | • Time and personnel resources to develop handout  
• Printing costs  
• Technical support to have available on website |

**Expected Impact**  
Change in awareness, attitudes and knowledge towards use of power mobility with young children with CP

**Evaluation plan**  
• Pre/post questionnaire with a parent sample  
• Survey therapists regarding perceptions of effect of the booklet on parent attitudes.  
• Survey therapists regarding effectiveness of handout in facilitating discussion of power mobility at younger ages.
Occupational therapy with school-aged children

Heidi Cramm, Nancy Pollock, Donna Dennis, Kala Subramaniam, and Margo Carkner

In May 2008, the Ontario Society of Occupational Therapists sponsored a think-tank to discuss occupational therapy in the schools. One of the issues identified was the need for a document that clearly outlines the role of occupational therapy with school-aged children and youth that could be used for a variety of purposes and audiences. A task group formed and the following document was prepared by the group. Consultation with therapists from multiple sites and areas of practice was invaluable in this process. Please feel free to copy and distribute this document without limit. An online version of this handout is available in the OT Now section of www.caot.ca

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References


