Clinician's Commentary on Fleet et al.¹

The article by Fleet and colleagues¹ is the first to report on the perception and use of constraint-induced movement therapy (CIMT) by Canadian therapists practising clinically in the neurological field. The results of their survey highlight the significant gap between awareness and knowledge of current research evidence and the implementation of that evidence into clinical practice for stroke rehabilitation.

The Canadian Physiotherapy Association defines evidence-based practice (EBP) as the integration of “the best available evidence and clinical expertise with the patient's needs and values to ensure delivery of best practice.”² Physiotherapists are highly motivated to adopt an EBP approach;³ unfortunately, therapists report that the lack of time to search, retrieve, read, and synthesize research articles is a major barrier to EBP.³ The incorporation of current research into clinical practice can be facilitated by knowledge-translation (KT) practices. The Canadian Institutes of Health Research (CIHR) define KT as “a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products and strengthen the health care system.”⁴ However, there is a lack of evidence as to which KT practices are the most effective, particularly for the rehabilitation professions.⁵

The Canadian Best Practice Recommendations for Stroke Care include CIMT in a list of “Specific Therapies” and note that it should be implemented for the management of the arm and hand in a select group of stroke patients (i.e., those with 20° of active wrist extension and 10° of active finger extension).⁶ Fleet and colleagues found that 92% of their survey respondents knew about CIMT and approximately half believed it to be moderately effective or effective. This group of respondents had clearly devoted some amount of time to searching, reading, and synthesizing the research to gain this knowledge of CIMT; thus, a limited form of KT had taken place. However, only 43% of respondents reported using CIMT at some point in the previous 2 years, and only 20% used CIMT as a primary treatment (when indicated) in their clinical practice. Thus, it appears that awareness and knowledge of the latest evidence for stroke rehabilitation is not enough to facilitate incorporation of that evidence into therapists' clinical practice. The obvious question is, Why?

The results reported by Fleet and colleagues¹ highlight some answers to this question: lack of more detailed knowledge of CIMT (i.e., the three critical components of the intervention), patient characteristics (e.g., cognitive impairments), and institutional/environmental factors (i.e., lack of time and lack of personnel), all of which respondents cited as barriers to implementing CIMT in their clinical practice. Fleet and colleagues also make some suggestions for addressing these barriers, such as continued clinical education for therapists, further adaption and modification of CIMT protocols to make them clinically feasible, and discussions between researchers and clinicians to facilitate incorporation of CIMT into practice. All of these excellent suggestions directly target the barriers identified by the authors' results, and rightly so. Furthermore, they are all forms of KT to facilitate EBP. My task in this commentary is to broaden the perspective of the discussion, to ask a follow-up question: What

is the most effective method—or KT best practice—to implement these suggestions?

The respondents in Fleet and colleagues' study already had some knowledge of the latest evidence for CIMT, yet they were unable to translate this knowledge into action (i.e., incorporate it into their clinical practice). It is an interesting contradiction that clinicians are expected to transform knowledge (i.e., scientific evidence) into action (i.e., clinical practice) independently, when as therapists we would never expect such a feat from our clients. For example, one cannot imagine a situation in which we give a client with stroke information about upper-extremity strengthening exercises and then expect him or her to independently incorporate them into daily life. More likely the therapist would take a multi-component approach, providing the information and then demonstrating the exercises, guiding the client through performing the exercises him- or herself, and then following up at a later session to address questions or concerns and perhaps brainstorm ways to incorporate the exercises into the context of the client's home environment and daily routine. A multi-component approach to KT practice for stroke rehabilitation is also required,⁵ but who will act as the “KT therapist” for physiotherapists?

One possibility is a knowledge broker. A recent article by Zidarov and colleagues⁵ (which also notes the “persistent gap” between research knowledge and its use in rehabilitation practice) outlined recommendations for successful KT in physiotherapy. One recommendation is to create intermediary positions in the health care setting, such as knowledge brokers. A knowledge broker is “an individual who creates links between researchers, policy makers, managers and practitioners.”^{5(p.1575)} A knowledge broker would be ideally situated to promote CIMT use in physiotherapy practice by implementing Fleet and colleagues' suggestions. Such a person would locate, evaluate, and synthesize recent research findings on CIMT and provide this information to practising physiotherapists, thereby eliminating one frequently cited barrier to EBP. A knowledge broker would also be able to identify resource-related barriers (e.g., lack of time and personnel) to the implementation of CIMT through discussions with physiotherapists and report those barriers to managers and policy makers who have the capacity and authority to make the necessary changes in the health care environment. Finally, a knowledge broker would facilitate discussions between physiotherapists and CIMT researchers regarding the clinical feasibility of CIMT protocols, so that adaptations and modifications to CIMT could be developed and evaluated in clinical trials.

The responsibility for EBP and for implementing best practice guidelines, such as the Canadian guidelines for stroke care, cannot rest solely on the shoulders of front-line physiotherapists. These clinicians do not have the time or resources at their disposal to synthesize research or implement it, nor do they have the authority to change the institutional barriers to the implementation of research evidence. Fleet and colleagues¹ have taken an important step toward incorporating CIMT into clinical practice by describing current practice, highlighting the barriers to implementing CIMT, and suggesting strategies

to facilitate KT of CIMT. Creating an intermediary in health care settings, such as a knowledge broker, is one potential solution to implement the KT strategies outlined by Fleet and colleagues and ultimately achieve improved outcomes for Canadians living with stroke.

Kara K. Patterson, PT, PhD

*Assistant Professor, Department of Physical Therapy,
University of Toronto; Scientist, Toronto Rehabilitation
Institute, University Health Network, Toronto*

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