Pain: Putting the Whole Person at the Centre

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In the current climate of patient-centred or client-centred care, it is increasingly important to recognize the unique personal experience of pain. As physical therapy students in the 1970s, the authors frequently wondered why the amount of pain experienced in response to a specific injury did not appear to be uniform among patients. Why did some patients have more post-op pain than others? Why did each person behave so differently in response to pain and injury? Why did some patients develop chronic pain after a shoulder injury or become disabled by back pain, whereas others did not, even though they appeared to have a similar injury? At that time there was no “physiological explanation” for the differences in individual outcomes. In fact, we now know that one of the common misconceptions among health care professionals was that the intensity and quality of pain experienced by each person should directly reflect the type and extent of tissue injury.¹ This mistaken belief often led clinicians to dichotomize the mind/body experience of pain, so that the clinical approach focused on isolating and treating tissue injury, with little effort to consider the person experiencing the pain. Individual differences in the pain experience and in observed pain behaviours were often considered—consciously or unconsciously—to be “in the patient’s head.” Thankfully, pain research has grown exponentially in the last 30 years, and we now understand that pain actually *is* “in the brain” and that differences in each person’s pain experience reflect the individual’s unique nervous-system processing, based on a complex integration of genetic,^{2,3} biopsychomotor,^{4–6} and social/environmental factors. For example, recent genetic research has identified individual differences in pain tolerance and pain threshold.⁷ In addition, with the advent of central nervous system imaging, the roles of so-called non-physiological factors in pain processing have actually been visualized in the form of brain activity.

Physiotherapy Canada will be running a special series on pain, including at least one article in each of the next few issues. This series on pain will explore some of the growing links among research, pain education, and the

role of physiotherapy in pain management. We hope that these articles will encourage readers to consider the assessment and management not just of the pain but of the impact of pain on the person as a whole and the impact of the person with pain on family, friends, and colleagues. In addition, consider the impact of the quality of the therapeutic relationship on the success—or not—of the therapeutic intervention.

Pain can be considered an experience of three dimensions: sensory/discriminative (SD), affective/motivational (AM), and cognitive/evaluative (CE).⁸ The SD component has traditionally been the target of most pain treatments, and for good reason: if the pain is related to an acutely inflamed injury, treating the biomechanical source, supplying anti-inflammatories, and applying ice are good ways to treat the inflammation at the source and, consequently, the pain. However, although pain is described in terms of tissue damage, it is not necessarily directly related to tissue damage. Indeed, recent research shows that chronic pain is not just a symptom in response to a stimulus but can be the pathophysiological condition in and of itself.⁹ Thus, pain is *not* just a response to injury or to a noxious sensory stimulus. In fact, pain is, by definition, an unpleasant sensory and emotional experience.^{10(p.209–12)} The AM component can include any emotional response to pain, such as fear, anger, anxiety, or depression. The CE component can be understood in two ways. First, pain demands attention¹¹—pain does not go unnoticed (unlike some other sensory stimuli that can easily escape our attention); second, the individual then evaluates the meaning or significance of his or her pain in terms of severity or threat.

Thus, the best pain management is multifaceted and addresses all aspects of the pain experience, recognizing the complex integration of each individual’s emotional and cognitive^{12–15} make-up. Assessment and treatment must extend beyond the SD dimension of pain⁶ to address the multidimensional aspects of pain. Physical therapists have begun to address the AM component by recognizing the role of fear, avoidance, and even endurance in movement-related outcomes.^{6,16} With respect to the CE component, physical therapists use distraction methodologies and patient teaching strategies to help

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individuals understand their pain as well as learn strategies to self-control aspects of acute pain and to self-manage chronic pain conditions. For physical therapists, it is worth remembering that movements and activity have an impact on pain and can improve physical and cognitive function as well as overall health.^{17,18} Appropriate assessment, activity-related advice, and management in primary care are key to preventing chronic-pain-related disability. For management of complex chronic pain, interprofessional collaboration by well-educated professionals has been identified as a key factor in effective pain management^{19,20} and is also emerging as an important contributor to positive health outcomes through improved communication, efficiency, cost-effectiveness, and patient-centredness of the health care team.^{20,21}

According to the Canadian Pain Society,²² the continuing gap between research evidence and the pain management provided by health professionals may be due in part to a lack of understanding of the knowledge and principles underlying pain-management standards. Well-designed pain curricula can significantly improve the pain knowledge and beliefs of health professional students.^{20,23–25} At the basic entry level, there is continuing evidence that pain content is minimal in pre-licensure (pre-qualifying, pre-registration, entry-to-practice) curricula and that students lack important pain knowledge at graduation.^{19,26–30} Of concern is the lack of awareness by many faculty and clinicians that their pain knowledge is limited. A variety of pain-education programmes have been developed around the world. For example, the University of Toronto has developed the well-recognized Interfaculty Pain Curriculum (IPC), an integrated pain curriculum for pre-licensure students from six health science faculties and departments (Dentistry, Medicine, Nursing, Occupational Therapy, Pharmacy, and Physical Therapy) at the university.²⁰ In 2008, one author (JPH) reported on the innovations in content, process, and learning strategies based on comprehensive evaluations of outcomes over six years of IPC implementation.³¹ This curriculum and the IPC faculty team have been recognized internationally,¹⁹ and the team was the 2006 recipient of a prestigious University of Toronto Award of Excellence, the Northrop Frye Award, which recognizes excellence in integrating science and teaching. McGill University, along with clinical partners, will soon be designated as a centre of expertise in chronic pain; its mandate will include education and a clinical management continuum of care.

Physical therapists must recognize their role within the team of health professionals and collaborate with the patient toward a functional outcome goal.^{31,32} As a profession, we are becoming more aware of our potential role in more comprehensive pain management. How can clinicians take the lead in bridging the gap between neuroscience and clinical practice? We must recognize the evidence that not all pain is the same. Like all interven-

tions, specific physical therapy interventions help some individuals and not others. However, this is strikingly evident in interventions for pain management. Thus, based on the complex nature of the pain experience, *we must go beyond the plain evaluation of treatment effectiveness and outcomes to include measures that guide optimum and appropriate tailored care, that predict outcomes of specific treatments by enabling the identification of those who are likely to respond positively to a specific treatment.* This evaluation is most important in cases of chronic pain, where tissue damage is not usually correlated with the intensity or impact of the pain. Age, stage of healing, and underlying tissue damage are all factors that potentially influence outcome. However, other factors may correlate with individual characteristics such as gender, treatment expectations, fear of the meaning of the pain, fear of movement, catastrophizing, attention or vigilance to symptoms, and confidence in the practitioner and/or the intervention. Multi-centre collaborative databases or clinical trials could produce patient numbers sufficient to enable research into the large number of variables that could define “responders,” providing an evidence base that recognizes the unique nature of the pain experience. This is essential not only for predicting treatment outcomes and defining which approaches are useful for a particular patient profile but also for developing relevant neuroscience questions based on insightful and thorough clinical observations.

However, while we encourage new investigations in this field, we are worried about the quality of some current physical therapy advertisements and non-peer-reviewed literature that attempts to translate some intriguing basic neuroscience findings into clinical interventions – without clinical evidence. As a profession, we must be careful not to blindly assume validity and thus blindly embrace specific new unidimensional pain treatments that are “new and interesting” but have not been validated. Beware of the practitioner, salesperson, or e-mail notice quoting some selective neuroscience evidence and using it to rationalize or to sell a single treatment intervention tool or a packaged treatment approach. The physiological rationale that a treatment “ought to work” is the weakest form of evidence.³³ Instead, the neuroscience evidence must be used to inform careful clinical research questions such as those suggested above. Furthermore, rather than further isolating the profession by relying on flashy therapies based on limited evidence in selected populations, we need to move forward with evidence-based clinical initiatives, such as interprofessional collaborative pain-management initiatives, that include a multidimensional and multi-modal approach.

In the next few issues of *Physiotherapy Canada*, you will see examples of such applications from leaders in pain research and rehabilitation across Canada. We will feature a range of current topics, including (1) an evalua-

tions of evidence-based psychosocial treatment techniques and self management to augment the impact of physical therapy interventions; (2) papers examining the role for management of acute post-op and procedural pain in adults and children – thus challenging the mantra “no pain, no gain”, (3) a description and evaluation of outcomes of an interdisciplinary pain rehabilitation programme in Alberta; (4) a report on one team’s experiences in developing guidelines for interprofessional pain management in primary care; (5) a report on how health care practitioners’ incomplete knowledge of and misbeliefs about pain and injury contribute to patients’ fears about pain and their disability; and (6) a study of the integration and interactions between pain, mind, and movement, explored using techniques such as music, computer games, and virtual reality. We will also include systematic reviews and Cochrane evidence reviews across the lifespan.

We hope that in the future a specific assessment/diagnostic strategy will exist to define individualized comprehensive pain-management plans to (a) minimize acute pain, (b) prevent chronic pain, or (c) limit the effect of existing chronic pain on activity and participation. To this end, the previously frustrating question of individual differences can now stimulate exciting clinical research questions and help improve current and future assessment and treatment of each individual’s pain.

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