Clinician's Commentary

Management of patients with lumbopelvic pain can be a complex process, requiring thoughtful consideration of the available literature as well as of unique features of the patient presentation, including pelvic and lower-limb asymmetries. It has been suggested that the spine should not be viewed in isolation and that the influence of lower-limb dysfunction is an important consideration in managing the root cause of lumbopelvic pain.¹ In her case report, Boyle² emphasizes the importance of integrating hip and pelvic asymmetries when identifying and addressing underlying dysfunctions that, if left untreated, may limit recovery. The report offers a systematic and logical description of a patient assessment and management interventions that address the primary reason for persistent lumbopelvic pain and dysfunction in a 65-year-old female patient. The outcomes of this case provide support for the use of unilateral exercises selected to address hip-joint dysfunction resulting from a pattern of postural asymmetry in the lumbar-pelvic-femoral complex.

Boyle's case report reminds clinicians of the interdependence of the lumbar spine, pelvis, and hip joint as well as their unique contributions to optimal lumbopelvic function. These are important considerations in determining the root cause of a patient's pain and dysfunction and the most efficacious management strategies. While the use of classification systems for the treatment of low back pain (LBP) may be beneficial for some patients,^{3,4} certain patient presentations may require the clinician to conduct a closer examination of pelvic and hip alignment in order to detect issues that could potentially impair or impede optimal patient outcomes.

Studies have attempted to establish a link between pelvic asymmetry and altered motor patterning that is hypothesized to cause LBP.^{5,6} Previous research has considered the role of the hip joint in predicting and managing LBP;^{7,8} however, most of this research has focused solely on muscle dysfunction and imbalances, with less attention to the associated pelvic and hip malalignment as potential causes of lumbopelvic pain.^{8,9} While Boyle's case report provides further support for the presence of muscle dysfunctions in patients with chronic lumbopelvic pain,² the author also describes concomitant hip-joint restrictions that may coexist in this patient population. In this case report, positive hip-joint findings are explained by pelvic asymmetries. In particular, Boyle discusses the value of relating pelvic asymmetries to altered tissue extensibility and malpositioning of the hip joint; she hypothesizes that altered length-tension relation-

ships of muscles in the lumbar-pelvic-femoral complex are direct consequences of sub-optimal hip and pelvic postural asymmetries. The importance of integrating clinical data that reflect postural asymmetry in clinical decision making is highlighted in the subsequent treatment interventions suggested by Boyle.

It is the persistence of the aforementioned impairments that forms the basis of Boyle's discussion of the use of unilateral exercises to correct for pelvic malalignments. Unique treatment interventions described by Boyle for this patient underscore the clinical significance of targeted muscle retraining in patients with persistent lumbopelvic pain. It has been well established that lumbar spine muscle imbalances exist in this patient population and that these are important impairments to address.¹⁰ Impairments such as local muscle atrophy¹¹ and altered patterns of muscle activation¹⁰ appear to play a significant role in altering the forces being transmitted between the lower extremities, the pelvis, and the lumbar spine.⁷ Boyle's case report applies this evidence in practice and, in addition, draws attention to the therapeutic use of muscular forces to correct joint position in the lumbar-pelvic-femoral complex. As suggested by Nadler et al.,⁷ addressing hip-muscle imbalance is an essential component of the management of individuals with lumbopelvic pain. However, much of the research to date has focused on rehabilitating hip extensor muscles to provide additional support and stabilization to the lumbopelvic region.^{9,12,13} In contrast, Boyle hypothesizes that normalizing forces in this region may not only improve muscle balance but also produce a better joint position, from which muscular function can then be restored. Boyle's thoughtful clinical reasoning approach in selecting specific muscle-retraining exercises likely led to a successful correction of femoral head positioning and restoration of tissue extensibility and function.

This case is an example of appropriate and successful identification and management of the underlying cause of lumbopelvic pain in a 65-year-old patient. Boyle's report stresses that the nature of the relationship between the spine and lower-extremity function is an important consideration in assessing and managing patients with chronic lumbopelvic pain. The implications of postural findings of the pelvis are reflected in the interventions used in this case. In particular, targeted retraining of specific pelvic and hip muscles was helpful in restoring normal hip biomechanics. Therefore, it is perhaps equally important for clinicians to consider a more specific rehabilitation approach to addressing muscle dysfunctions as

to prescribe a global exercise program, particularly in the presence of pelvic asymmetries. While Boyle reminds the clinician of these important clinical considerations, her report has several implications for researchers as well. Future research could focus on the prevalence of pelvic asymmetries in individuals with chronic LBP and the predictive value of such findings in this patient population. In addition, it may be beneficial to investigate the sustained outcomes of this approach to managing pelvic asymmetries in patients with chronic lumbopelvic pain.

Euson Yeung
Department of Physical Therapy
Faculty of Medicine
University of Toronto
160–500 University Avenue
Toronto, ON M5G 1V7
Canada
euson.yeung@utoronto.ca

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