

# Editorial Commentary: Hip–Spine Syndrome: When the Hip Does Not Move, the Spine Labors Double



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**Abstract:** When the hip does not move, the spine labors double. For example, limited hip extension results in lumbar spine hyperextension and an increase in spinal facet joint loading due to premature coupling. Patients who undergo hip surgery show significant improvement in concomitant lower back problems, and symptomatic low back pain resolves in approximately 80% of patients after total hip arthroplasty. When an impairment in hip range of motion (limitation or asymmetry) is identified, a logical relationship to lumbar pathology should be explored, and treatment options may include interventions that improve hip joint range of motion.

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Advances in orthopaedic surgery are undeniable nowadays; however, there is still a sense of pursuit for a local disorder explaining the symptoms of a given patient. Practicing an orthopaedic surgery–specific field has enormous advantages: a better understanding of the detailed function and anatomy of a particular joint, the learning curve for surgical procedures, and the ability to treat minor and major complications. Nonetheless, in my opinion, this comes to a cost: we have fragmented the human body so much that we do not completely understand the relationship between 2 pathologies unless they occur in the same joint we treat. There are a number of examples of this situation that are showing up recently in hip surgery. Two of the most important ones are: (1) core muscles and femoroacetabular impingement and (2) lower back pain (LBP) and limited hip range of motion due to any cause.

Hammoud et al.<sup>1</sup> described a consecutive series of 38 professional athletes who were treated for symptomatic femoroacetabular impingement, with 12 (32%) of those patients identified as having previous surgical intervention for core muscle injury/athletic pubalgia. After additional treatment for femoroacetabular impingement,

all 12 patients were subsequently able to return to play. In addition, of the 26 remaining patients, 15 had symptoms of core muscle injury/athletic pubalgia that resolved with isolated treatment of their hip pathology.

In a similar direction, Redmond et al.<sup>2</sup> reported patients undergoing hip surgery with coexisting lumbar spine disease showing significant improvement in lower back–specific functional scores like the Oswestry Disability Index. This finding has been confirmed by a recent study revealing that symptomatic LBP resolved in 82% of patients after total hip arthroplasty.<sup>3</sup>

The majority of studies investigating the relationship between hip range of motion and LBP have focused on hip flexion and rotation.<sup>2–6</sup> While this is important in most cases, the study by Hatem and Martin is making us think out of the box. They recognize the limited hip extension as another cause of lumbar pain due to kinematic disturbances.

This clinical confirmation of the relationship between limited hip extension and lumbar symptoms is supported by a recent biomechanical study demonstrating how hip extension block resulted in lumbar spine extension and an increase in spinal facet joint loading due to premature coupling.<sup>7</sup>

Recent research aims to address specific contributors to lumbar pathology arising from the hip, as opposed to the classical definition in which the disease occurs independently. The authors of the biomechanical studies instead propose a unique categorization of flexion, extension, or flexion and extension hip–spine effects.<sup>7,8</sup>

Hatem and Martin’s study in this issue, “Low Back Pain Improves After Surgery for Lesser Trochanteric-Ischial

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Impingement,"<sup>9</sup> reminds us that during the examination of a patient with LBP, when an impairment in hip range of motion (limitation or asymmetry) is identified, a logical relationship to lumbar pathology should be explored and treatment options may include interventions that improves hip joint range of motion.

All these data should make everyone realize that sometimes when other local causes of pain have been ruled out and a biomechanical hypothesis is sound, operating away from the location of the pain is not crazy. Improving lower back symptoms after hip surgery should not be considered a collateral effect or secondary outcome anymore. Doctors around the world having a broader biomechanical approach to chronic pain, and, when indicated, performing hip surgeries to treat athletic pubalgia, derotational osteotomies to improve gait and lower back kinematics, and decompressing ischiofemoral spaces looking for functional improvement of patients with chronic lumbar pain are not out of their mind. They are probably a few steps ahead.

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