

# Facet Syndrome: A Hidden Culprit in Neck and Low Back Pain?

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Lumbar spinal facet joints were first suggested in the medical literature as a source of low back and lower extremity pain in 1911[1]. Since then, the so-called “facetogenic back pain” has become a widely accepted, although still controversial entity in the radiologic and orthopaedic literature [2–6]. Estimates of the prevalence of lumbar facet joint pain based on single diagnostic blocks have been reported to range from 7.7% to 75% among patients reporting back pain [7].

Schwarzer et al. [8] determined that facet joint involvement was the root cause of lower back pain in the United States following an incident (work related, motor vehicle accident, or other causes) in about 15% of the patients. The prevalence of lumbar facet joint pain in a rheumatology practice in Australia was noted to be 40% [9].

In 1927, Putti illustrated osteoarthritic changes of facet joint in 75 cadavers of persons older than 40 years [10]. In 1933, Ghormley coined the term facet syndrome, suggesting that hypertrophic changes secondary to osteoarthritis of the zygapophysial processes led to the lumbar nerve root entrapment, which caused LBP [11]. In the 1950s, Harris and McNab [12] determined that the etiology of facet joint degeneration was secondary to intervertebral disc degeneration.

The facet or zygapophysial joints of the spine are well innervated by the medial branches of the dorsal rami [13,14]. Facet joints have been shown to be capable of causing pain in the neck, upper and mid back, and lower back. This pain may be referred to the head or upper extremity, chest wall, and lower extremity as has been found in normal volunteers [15]. In accordance with postulates of Bogduk the lumbar facet joints are innervated, they produce pain in normal volunteers, and relief of pain has been demonstrated by using diagnostic techniques of known reliability and validity. Conversely, the reliability of physical examination in diagnosing the specific cause of back pain has been questioned [16].

Despite all studies, the diagnosis of facet joint-mediated pain remains a challenge because no particular history or clinical examination manoeuvre has been found to be unique or specific to this entity [17]. Schwarzer et al. and other authors have reported up to a 45% false-positive diagnostic rate when the physical examination findings are correlated to diagnostic medial branch blocks of the posterior rami [18].

Biomechanical studies of the facet joint during extension and of facet capsular ligaments strained during rotation initially provided the belief that facet joint pain is worse with extension and rotation. Early studies by Helbig and Lee provided initial credence to this belief, but later studies by Revel and co authors and by Schwarzer and colleagues did not support it. Revel's investigation found that an increase in pain during hyperextension and extension-rotation was, in fact, less frequent in the group that responded to the facet joint injection than in the group that did not [19]. Further, it has been shown that medical imaging provides only a little additional information in identifying the precise anatomical diagnosis.

The mechanism of chronic neck pain and low back pain, specifically secondary to facet joints, continues to be controversial. Kirkaldy-Willis et al. [20] described the pathogenesis of degenerative changes in the aging spine, whereas Handel et al. described a structural degenerative cascade for the cervical spine. In this model, degenerative cascade

is viewed in a context of three-joint complex, with involvement of changes in the disc structure and composition paralleling changes in the articular cartilage and ligaments of joints. Thus, it is reasonable to assume that in a patient suffering with neck and low back pain, the causative structures of that pain may be the same in both regions, either discs or facet joints. The potential for correlation of pain generators in cervical and lumbar spine is exemplified by demonstration of similar degeneration of disc in cervical and lumbar spine in twins [21].

Many investigators developed techniques to diagnose facet joint pain using intra-articular joint blocks and medial branch nerve blocks, as well as ways to treat such pain with intra-articular steroids, surgical ablation, or Radiofrequency (RF) denervation. Although controversy still continues regarding the true prevalence, most accurate diagnostic methods, and most efficacious treatment of symptomatic facet syndrome as the cause of back pain [22]; the future appears to be bright with rapid advances in the field of imaging for diagnosis and in the field of physiotherapy for long term and effective management of such conditions. Hence through this editorial we appeal one and all to look at Facet Syndrome as a hidden culprit in back pain and to devise means and methods to diagnose and manage this enigma.

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