

Proper Movement and Compression: a Closer Look at Joint Dysfunction

Joel Johnston, DC; Mark A. King, DC

Although musculoskeletal pain is composed of many factors, certainly joint dysfunction is a significant contributor. Seaman, et al., (1998) described a theoretical model by which joint dysfunction alters the afferent feedback to the central nervous system at the segmental and suprasegmental levels. This is based on the idea that a loss of mechanical or positional information from a joint will result in increased information from the nociceptors that sense tissue damage. Seaman, et al., (1998) used the term dysafferentation to describe this situation.

As clinicians, we need to decide how to get proper movement and position information to the central nervous system. Once serious pathology is ruled out, joint function can be broken down into a few basic concepts. A joint should have proper movement and proper compression to control movement. A joint can lack movement (fixation); a joint can have too much movement (instability) and lack appropriate compression; or a joint can have fixation and still be unstable, due to reflex effects on the surrounding musculature inhibiting proper compression. Any one of these situations can cause nociceptive input to be sent to the central nervous system.

As clinicians, our job is to select which category our patient is in and tailor our treatment to their needs. If a joint is stuck, it needs increased movement to supply the central nervous system with the proper movement and position information. If a joint lacks compression, this too produces poor mechanical and position information. Think about all the receptor pools in a joint, and the need to be stimulated by pressure. This pressure needs to be symmetrical and to be adequate to reach threshold.

Pain from an unstable joint can be relieved by proper stabilization exercises rather quickly (Hodges 2001). Incidentally, stabilization exercises should not hurt. The "no pain, no gain" slogan is not applicable here. Pain can inhibit proper muscle activity (Simons 1993). Proper compression of a joint increases mechanoreceptor input (Hodges 2001). If a joint lacks movement and lacks proper compression, the clinician should increase joint movement via adjustment, and follow the procedure with proper stabilization exercises.

If we can properly categorize our patients, it will increase the effectiveness of our care substantially.

References

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*Joel Johnston DC
Oxford, Ohio*

*Mark King DC
Cincinnati, Ohio*

APRIL 2002

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