

Hypermobility and Chronic Low Back Pain -- Application of Therapeutic Muscle Stretching.

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Low back pain (LBP) is an increasing concern in industrialized countries because of the high incidence of long periods of disability or permanent impairment of the patient.

Often, severe LBP does not respond to conservative management, even with careful diagnosis and properly applied treatment. The reason for failure must either be incorrect/incomplete diagnosis and/or inadequate treatment.

The condition termed "hypermobility" has been more recently recognized as a cause of severe LBP. It has been described as segmental movement occurring in a contradictory manner when compared to the collective motion patterns of the spine.

Hypermobility may present as increased movement compared to what is expected. It may occur at one joint, one segment, in just one direction of movement, or as a more generalized phenomenon. More commonly, we see compensatory hypermobility occurring when trauma to the ligamentous structures has decreased the movement of the adjacent joint.

The initial response to the increased segmental movement is a reflexive increase in tone of muscles that share common innervation or are directly attached to the corresponding segment. This is the body's attempt to stabilize the affected area. Over time, prolonged, increased tonus will decrease the blood supply and increase the build-up of lactic acid.

The nociceptors response in the muscle and/or the joint capsule may result in an inhibition of the segmental muscles, which, in turn, may lead to uncoordinated movements and produce myofascial trigger points.

Segmental hypermobility has been suggested as a prelude to disc degeneration and in later stages it could progress to segmental instability. Care should be taken not to confuse hypermobility with segmental instability.

In contrast to hypermobility, instability refers to a disruption of structures (osseous and ligamentous) with a loss of functional integrity. Usually, diagnosis is based mostly on radiological findings and measurable deficiencies. It should be used to describe clear pathomorphologic derangements and not for any unspecified increase in mobility.

Hypermobility joints usually preserve their stability under normal conditions, remaining functional in weight bearing and within certain limits of motion. Hypermobility can be detected clinically: Diagnosis is established from a characteristic history, the absence of radiological evidence, and specific palpatory tests that have been developed to ascertain increased segmental motion. In addition, hypermobility can be diagnosed from inspection, functional testing, palpation, and through specialized radiologic views.

Treatment is aimed at restoring functional deficits in coordination, strength, and endurance in

segmental musculature. Areas of hypomobility must be manipulated without involving the hypermobile joints. (This can be accomplished through the use of various joint-locking mechanisms.)

The use of therapeutic muscle stretching (TMS) is of benefit to those muscle groups which have become dominant and maintain the stress upon the hypermobile segments. Often the muscular imbalance that has developed will not allow for normal patterns of joint movement. TMS has been effective as a form of treatment for these imbalances. Postural correction can be more long lasting if the musculature has normal elasticity and plasticity.

TMS involves the proper positioning to safely and efficiently stretch shortened muscles, usually those muscles that are termed postural. As a result of the reciprocal inhibition by these facilitated muscles, an imbalance develops with their antagonist. Training of the inhibited antagonist is less effective, if effective at all, if stretching hasn't first been applied to the dominant postural muscles.

More attention should be paid to proper diagnosis and treatment of hypermobility as a source of chronic back pain. It should be obvious to experienced doctors that in treating difficult and chronic conditions, one modality rarely accomplishes the desired resolution of the signs and symptoms. TMS is an important part of the treatment of this condition, as is manipulation, training for coordination, balance, and endurance of the spinal muscles.

Reference:

Muehleman, D. Lecture/Workshop, May 1989, Portland, Oregon.

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