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**CHIROPRACTIC, P.A.**  
*Gentle, Effective, Quality Chiropractic Care*

## **What's Wrong With My Back/Neck?**

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Back and neck pain are among the most disabling and costly conditions affecting North Americans (1). Misinformation abounds. Most research has focused on low back pain (LBP) but these findings can be generalized to include the neck. LBP can arise from a variety of conditions including serious disease, infection, tumor or fracture. These conditions account for less than 2% of all cases. Another 10% are due to “pinched nerves”. The overwhelming majority of patients have what is termed “mechanical back/neck pain” (1). This can be caused by trauma, over-use or more frequently the cumulative effects of years of imbalances in the musculoskeletal system as a result of a “healed” injury, aging, de-conditioning, improper ergonomics and stress. You are a candidate for chiropractic care if you have either mechanical pain or compressed nerves; however a very small minority of those with compressed nerves require medical intervention, even surgery. According to the most up-to-date scientific information available, pain comes from irritation or damage to one or more of the following structures (2):

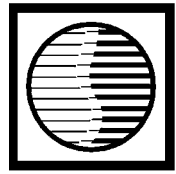
1. Sacroiliac joints
2. Facet joints
3. Intervertebral discs

Degenerative joint disease, “extra vertebrae” and even spondylolisthesis are not identified as sources of pain. There are just as many pain free people with these findings on x-ray or MRI as there are those who have pain (2). Interestingly, muscles or muscle spasms have not been identified as a source of pain. Muscles are very important in mechanical pain syndromes however. Muscular weakness, lack of endurance and in-coordination produce abnormal loads and stresses that de-stabilize the spine, setting the stage for injury. In the opposite case, injury to the joints or discs can impair nervous system input to the muscles, causing in-coordination, poor endurance and weakness. In either situation the tendency for recurrence is very high, approximately 85% (3). Muscles develop adverse tension due to over-loading, weakness or imbalance and can become tender to touch, as is the case with trigger points (4). Simply treating the muscles with medication, electrical stimulation or massage may provide relief but will not correct the overall mechanical dysfunction.

**Effective treatment:** Current medical treatment often counsels patients by re-assuring them that the pain will go away with rest and medication. This is frequently true. The problem is recurrence. People typically have multiple bouts of low back pain throughout their lives after their first episode (3). Appropriate intervention can dramatically reduce recurrence rates (3).

**Manipulation/Adjustment:** Skilled manipulation of segmental dysfunction or mechanically fixated joints of the spine is intended to produce a number of desirable effects (5).

- 1) Pain relief.
- 2) Improved local joint motion between two vertebrae or other joints of the body.
- 3) Improved regional range of motion in the spine, arms and legs.
- 4) Stimulation of reflexes that balance involuntary movement patterns or “chain reactions” of muscles throughout the body.



**Therapeutic Exercise:** The proper exercise prescription is a useful tool in correcting instability, weakness, tightness and poor endurance in the musculoskeletal system. Endurance, not strength is the most important parameter (6). We use a low-tech (ie. no machines) program of spinal stability training to improve endurance, strength and flexibility. Exercise is supervised and introduced in a graded fashion. A supervised program has been shown to be superior to unsupervised home exercise (7). This approach has been shown to dramatically reduce the recurrence rate of back pain and provide continued benefit over time (3). Training can take up to three months to be fully effective.

**Neuromuscular Re-education (NMR):** Once a patient learns how to activate the stability system they are challenged with graded exposures to unpredictable, unexpected stimuli to the system called perturbations. Simple perturbations include using rocker boards, foam rollers or gym balls. Difficulty progresses as challenges in the form of pushing, pulling, lifting, reaching, catching are introduced. These challenges improve the body's ability to quickly react to insult and protect the joints and discs from injury, thus improving stability (8). NMR techniques also normalize the fixed, stereotypical movement and postural patterns that frequently lead to neck pain, back pain and headache (9).

A well designed and implemented treatment program including manipulation, exercise and neuromuscular re-education can provide pain relief, restore function and prevent recurrence. Properly diagnosing the problem and deciding upon the best treatment approach is the doctor's responsibility. Treatment visits build upon one another and missing sessions may slow or negate progress. It is up to the patient to attend treatment visits as prescribed.

References:

- 1) Agency for Health Care Policy and Research. Acute low-back problems in adults. Clinical Practice Guideline Number 14. Washington, D.C. U.S. Government Printing, 1994.
- 2) Bogduk N; Aprill, C; The Sources of Back Pain in *Rehabilitation of the Spine: A Practitioners Manual*. 2<sup>nd</sup> Edition. Craig Leibenson, Ed. Lippincott, Williams and Wilkens. 2007
- 3) Hides JA et al. Long term effects of specific stabilizing exercises for first episode low back pain. *Spine* 2001;26:243-248
- 4) Cholewicki J et al. Neuromuscular function in athletes following recovery from a recent low back injury. *J. Orthop Sports Phys Therapy* 2002;32:568-575.
- 5) DeFranca, G Manipulation Techniques for Key Joints in *Rehabilitation of the Spine: A Practitioners Manual*. 2<sup>nd</sup> Edition. Craig Leibenson, Ed. Lippincott, Williams and Wilkens. 2007
- 6) McGill SM et al. Endurance times for stabilization: Clinical targets for testing and training from a normal database. *Arch Phys Med and Rehab* 1999;80:941-944
- 7) Yilmaz F et al. Efficacy of dynamic lumbar stabilization exercise in lumbar microdiscectomy. *J Rehabil Med*. 2003;35:163-165
- 8) Burton AK, Trunk muscle activity induced by three sizes of wobble (balance) boards. *J Orthop Sp Phys Ther* 1996;8:70-76
- 9) Janda V et al. Sensory Motor Stimulation in *Rehabilitation of the Spine: A Practitioners Manual*. 2<sup>nd</sup> Edition. Craig Leibenson, Ed. Lippincott, Williams and Wilkens. 2007