

## Chronic Low Back Pain Treatment

Chronic low back pain was the second most common cause of disability in the US at the end of the 20<sup>th</sup> century. The precise diagnosis of low back pain is very difficult because lumbar strain, degenerative disk disease, spondyloarthritis, spinal stenosis and degenerative joint disease are often expected explanations for the low back pain. Despite of the complexity of the structures of the low back and the diagnostic ambiguity, the doctor must provide the patient with the treatment options.

The US Congress has declared 2001-2010 the Decade of Pain Control and Research. Despite an increased awareness of the under treatment of pain, the adequate management of pain remains a daunting task. An estimated 1 in 4 Americans suffer from chronic pain, and 1 in 10 Americans take proscriptioin pain medications. The prevalence of common forms of chronic pain is expected to increase as the American population ages. Low back pain is often associated with tension and stiffness in the joints, muscles, and nerves of the lumbosacral area of the spine and it may present with or without leg pain. The pain can be specific or nonspecific. As estimated 70% of people in developed nations experience low back pain and 1 in 20 people hospitalized with each new episode. Risk factors for low back pain include heavy physical labor, frequent bending, twisting, or lifting, and prolonged status postures.

The assessment of pain is critical to proper diagnosis and treatment. The goals of a clinical assessment include achieving a diagnosis of pain, identifying the underlying causes of pain and co-morbid conditions, evaluation psychological factors and functional status, developing a targeted treatment plan, and determining when to refer to a specialist or multidisciplinary pain clinic.

Treatment strategies often focus on medications, although many other options are available that may be just as effective. Patients often have tried over-the-counter medications first, topical agents, the application of ice and/or heat and may seek medical care only when these have failed. Current pain management agents interrupt or modulate the pain signal, reducing the pain information the brain receives.

The goals of the treatment of chronic pain including chronic low back pain are to reduce suffering, improve physical and social functioning, and improve quality of life. The main objective of pain management is to relieve pain so that patients can return to a normal or near-normal level of function. Numerous studies support the use of antidepressants, antiepileptic drugs, and local anesthetics, including non-steroidal anti-inflammatory drugs (NSAIDs), as a first line approach to the treatment of chronic pain. For the patients with mild to moderate pain, the second step involves the addition of opioids to non opioid medications. For the patients with moderate to severe pain, the third step involves the addition of lumbar epidural injections and implantable spinal cord stimulator.

Lumbar epidural injection blocks the pain by delivering the medication (local anesthetics and steroids) to the specific place and therefore reducing inflammation, swelling and irritation of the nerves. Drugs applied epidurally reach their target tissues fast. Epidural

blockade is also unique because of special features of the anatomic site of injection and the resultant diverse sites of action of the local anesthetic and steroid solution. The most practical and widely used continuous method of neural blockade is epidural blockade with administration of drug that selectively block pain conduction, while leaving sensation, motor power and sympathetic function essentially unchanged.

Electrical stimulation as a treatment of low back pain achieved the recognition and became very popular in nova days. Low back pain reduction with the use of therapeutic neurostimulation leads to a reduction or even cessation of opioid medications; making the patient feels better and definitely improving the quality of their life. At present time, invasive neurostimulation is regarded as a last resort but is quite likely that better results in the treatment of low back pain would be obtained if it were used earlier. The status of contemporary technology in the field of neurostimulation is more complex today because of computerized remodeling of electrical currency. The therapeutic electrical neurostimulation as a treatment of low back pain is an established, systematic interdisciplinary field of medicine that has an application for the treatment of low back pain.