

# Treating Chronic Low Back Pain: Time to Refocus?

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Epidemiologic studies of low back pain (LBP) have consistently shown that, in the United States, there is a lifetime prevalence of 70 percent and an incidence of up to 20 percent. Studies have also shown that 90 percent of patients with acute LBP will get better, and generally within six weeks.

What distinguishes the 10 percent of our LBP population who develop chronic LBP is controversial. Since the first description of lumbar disc herniations by Mixter and Barr in 1934, many physicians, surgeons in particular, have accepted the structural etiologies of pain. They point to magnetic resonance imaging (MRI) findings such as “bulging discs, degenerative joints, stenosis, flat backs, etc.” Because of this mindset, they tend to focus their treatment recommendations on physical therapy, injections and operations.

Since the 1950s, lumbar fusions, increasingly employing instrumentation, have been en vogue. Screening procedures have included provocative discograms and “pain blocks.” Adding to the confusion, the medical literature often conflates the causes of axial LBP with those of neurological syndromes of lumbar etiology.

A rapidly expanding number of studies now suggest that it may be time to refocus our attention on the entire patient rather than just his/her lumbar MRI scans. To quote Sir William Osler: “It is much better to know what sort of patient has a disease rather than what sort of disease a patient has.”

Study after study reminds us that lumbar MRI scans cannot predict LBP

in more than 85 percent of our patients with chronic axial LBP. A recent study suggested that obtaining MRI scans early in a patient’s clinical course led to increased invasiveness of care, more expensive care and, surprisingly, worse outcomes. Three prospective, randomized controlled trials comparing outcomes of LBP in fusion versus conservative treatment groups since 2001 have failed to show a clear advantage of surgery. All studies show that routine use of spine X-rays conveys more risk than benefit. And yet, in spite of these reports, we in the United States continue to practice the most aggressive and expensive spine care in the world. Deyo studied Medicare discharge data 2002 to 2007 and reported that fusion rates increased by a multiple of 15, leading to life-threatening complications in 8.6 percent and a 30-day readmission rate of 13 percent. Alarming, Medicare expenditures for epidural steroid injection rose 629 percent, opioid prescription use was up 423 percent and ordering of MRI scans up 307 percent. Importantly, outcomes have not been shown to be better. In fact, the Dartmouth Atlas Medicare database findings suggest that increased intensity of care has been associated with worse outcomes. We are

now spending up to \$100 billion a year in the United States for spine care. That approaches the total healthcare expenditures for Canada!

For more than 50 years, we have been told that one of the best predictors of care outcomes in patients with chronic axial LBP are psychosocial factors (e.g., alcoholism, early life abuse, depression, multifocal pain, job dissatisfaction, etc.). Now functional brain mapping has actually begun to show that chronic pain is associated with certain brain activity changes and maybe even cell death. A recent meta-analysis of 22 trials published in *Health-Psychology* (2007) by Kearns strongly suggested that cognitive retraining had major impacts on chronic pain complaints. In other words, chronic LBP may be more likely a brain than a back disorder.

All the data suggests treating chronic axial LBP is complicated and that it is generally not a surgical disease. We, as a society, will probably do best by decreasing our reliance on high technology medicine in this subgroup of patients. Encouraging healthy exercise, aggressively treating psychosocial risk factors and minimizing habituating drugs seems to be generally the best course of action.

## CASE REPORT: Recurrent Severe Low Back Pain

A male patient (born in Massachusetts in 1917) experienced a series of severe intestinal ailments, infections, and other illnesses during childhood that led to his being considered sickly by his immediate family. Recurring symptoms included fatigue, poor weight gain, abdominal pain and diarrhea.

His family took him for evaluation by physicians at major medical centers, including Harvard and Yale. In 1934, when he was 17, he was sent to the Mayo Clinic, where he was diagnosed with colitis. During his mid-20s, he began to experience severe low back pain. Before the age of 30, he underwent the first of several surgeries on his back. In 1947, he was diagnosed with Addison's disease, indicating adrenal insufficiency and was put on a daily regimen of corticosteroids that continued for life. One side effect of this medication, susceptibility to infection, led to multiple courses of antibiotics to treat conditions of the skin, urinary tract and respiratory system.

Low back pain continued, growing progressively more severe. He developed compression fractures and osteoporosis, resulting in an impaired gait. At age 37, he underwent surgery at Cornell that involved screwing in a metal plate to stabilize the lumbar spine. Within a year, recurrent infections led to the removal of the hardware, which was replaced with bone grafts.

Despite chronic low back pain and abdominal problems, multiple hospitalizations, use of braces and what eventually became a cornucopia of pharmaceuticals (antispasmodics, muscle relaxants, pain medications, testosterone, sleep aids, and multiple daily trigger point injections, as well as the cortisone), he was an athlete through college, served as a military officer during World War II, and was elected president of the United States in 1960.

Although by today's standards, John F. Kennedy's medical condition and pain medication usage would have qualified him for federal disability benefits, the public image he maintained during his presidency was one of being youthful and active. In private, however, he used crutches, walked sideways down stairs and was unable to bend down. Current treatment recommendations for a patient in his condition would more likely utilize non-steroidal anti-inflammatory agents and strengthening exercises than surgery, bracing and trigger-point injections.

President Kennedy's complex medical history was made public in 2002. For a more detailed physician's perspective on his case, see *Stabbed in the Back: Confronting Back Pain in an Overtreated Society* by Nortin Hadler, MD.

