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Spine surgery most effective for lower back pain, study reveals

A multi-center study called the Spine Patient Outcomes Research Trial (SPORT) funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and the National Institutes of Health (NIH), was launched in 2000 to look at the three most common back conditions leading to surgery. These conditions are: herniated disk with sciatica, spinal stenosis, and spinal stenosis with spondylolisthesis — a variation of spinal stenosis where laxness in the spine causes one vertebra to slide forward and press against nerves, causing pain in the back and legs. Approximately 2,500 patients took part in the study, which was conducted at 13 medical centers across the country.

"There are thousands of surgeries completed each year to address degenerative spine conditions, yet there had never been a large-scale trial to give us evidence that the surgeries really work, as compared to non-operative approaches," said SPORT study author James N. Weinstein, MD, an orthopedic surgeon and chair of the department of orthopedics at Dartmouth-Hitchcock Medical Center, one of the 13 testing sites.

Dr. Weinstein and his colleagues collected data from 607 men and women diagnosed with spondylolisthesis. They found that in all cases, surgical treatment proved to be effective. In cases of stenosis with and without spondylolisthesis, patients who were treated operatively improved more quickly and reported less pain and higher satisfaction at two and four years after surgery. In cases of herniated disk with sciatica, however, the two-year results for

What the News Means to You

Khalid M. Abbed MD

New findings will help patients choose treatment

Back surgery is not for everyone. But when other treatments fail, modern spinal surgery can be an important therapy option. What we now know and can share with our patients is that they have a choice. If they choose surgery, they will often improve greatly. But if their preference is not to have surgery, their condition is not likely to worsen and they will often see some improvement over time.

The Spine Patient Outcomes Research Trial (SPORT) is the first comprehensive study to look at different ways of treating low back and leg pain and how effective these treatments are for patients. The trial was funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and the National Institute of Health (NIH) in recognition of how prevalent and how disabling back problems are. The research is meant to give patients and their physicians solid information to help guide them as they make decisions about how to treat these conditions.

Spinal stenosis is a narrowing of the spinal canal that causes a progressive squeezing of the nerves leading to pain in the buttocks or

operative and non-operative patients were nearly the same.

"Our results indicated that in these patients, there was a clear advantage for surgery," said Dr. Weinstein. "Patients felt relief faster, and at two and four years, reported better function, less pain and higher satisfaction that those who chose to go the non-surgical route."

Low back pain is one of the most widely experienced health problems in the world. Chronic back pain is often progressive and the cause may be difficult to determine. According to the National Institute of Neurological Disorders and Stroke, Americans spend at least $50 billion a year on treatments for low back pain; next to the common cold, it is the main reason for missed work days and physician visits.

The results of the SPORT study are published in the June 2009 issue *The Journal of Joint and Bone Surgery.*

legs when walking or standing. It is most commonly seen in adults over 60. When surgery is performed, excess bone, ligament and soft tissue are removed to allow more room for the nerves, a procedure called a laminectomy, the current gold standard for symptomatic spinal stenosis. Lumbar spinal fusion may also be performed to prevent instability of the spine. Non-surgical treatments for spinal stenosis include physical therapy, exercise, chiropractic, epidural injections and anti-inflammatory drugs.

Newer, minimally invasive techniques now exist, including minimally invasive decompressions, discectomies, fusions and X-Stop procedures which were previously only offered as open surgical procedures. These new, minimally invasive techniques reduce post-operative pain and recovery time, allowing patients to return to a normal level of function more quickly.

Dr. Abbed is an associate neurosurgeon at Yale-New Haven Hospital. He is the chief of neurosurgical spine surgery and director of minimally invasive and oncology spine surgery at Yale School of Medicine, where he also serves as assistant professor of neurosurgery.