# Spinal 'spacer' procedure has fewer complications, but higher risk of repeat surgery

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Interspinous spacer implantation—a less-invasive alternative surgical option for spinal stenosis—has a lower complication rate than spinal fusion, reports a study in the May 1 issue of *Spine*.

However, patients receiving interspinous spacers are more likely to require repeated back surgery, according to the report by Dr Ricard A. Deyo and colleagues of Oregon Health & Science University, Portland. They conclude, "Use of interspinous spacers poses a trade-off in outcomes: fewer complications for the index operation, but higher rates of subsequent lumbar surgery."

## Spacers for Spinal Stenosis Have Lowest Complication Rate…

The researchers compared the outcomes of three alternatives for surgical treatment of spinal stenosis in the lower (lumbar) spine. Patients with spinal stenosis have narrowing of the spinal canal, causing back pain, leg pain, and other symptoms.

The study included Medicare data on more than 99,000 Medicare patients, average age 75, who underwent surgery for spinal stenosis from 2006 to 2009. Of these, about 6,000 underwent implantation of interspinous spacers—small devices placed between vertebrae to control motion in the area affected by spinal stenosis.

Outcomes were compared with approximately 17,000 patients who underwent spinal fusion surgery to join two vertebrae together and 76,000 who underwent a simpler procedure (laminectomy) to take pressure of the spinal cord (decompression). Some patients received spacers combined with decompression.

The results showed that patients treated with spacers only had the lowest rate of major medical complications: 1.2 percent, compared to 1.8 percent with decompression and 3.3 percent with spinal fusion. Patients receiving spacers alone also spent less time in the hospital: average 1.4 days versus 2.7 days in the decompression group.

## …But Higher Rate of Repeated Spinal Surgery

"Although patients receiving spacers had the lowest rate of complications, they had the highest rate of revision surgery," Dr Deyo and coauthors write. Within two years, about 17 percent of patients receiving spacers needed an additional operation on the lumbar spine, compared to 8.5 percent in the laminectomy group and about 10 percent in the fusion group.

Patients receiving spacers tended to be older and to have other medical problems. With adjustment for these and other factors, patients in the spacer group were more than twice as likely to require repeat surgery. "Hospital payments for spacer surgery were greater for decompression alone, but less than for fusion procedures," the researchers write.

Previous studies have found that interspinous spacers are an effective treatment for patients with lumbar spinal stenosis, compared to nonsurgical care. However, no studies have directly compared the outcomes of interspinous spacers with other surgical procedures for spinal stenosis.

Since spacer implantation is less-invasive, it's not surprising to learn that it has a lower complication than more extensive surgical procedures. However, the new results suggest that spacers carry a "substantially greater likelihood" of requiring further surgery later on.

The authors discuss the trade-offs among complications, costs, and repeat surgery. For patients at average risk, "the higher reoperation rate with spacers may argue in favor of conventional decompression surgery," the researchers write. Spacers might be a good alternative for older patients with higher surgical risks.

Dr Deyo and coauthors note some important limitations of their study—particularly the lack of data on pain relief or functional recovery. They highlight the need for further research, including studies comparing the cost=effectiveness of spacers versus other options. "Only with such additional study will the optimal indications for this new technology become clear," they write.

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