



Another study from SPORT (see below) found that patients who had a diskectomy saw an improvement not only in back pain, but also in leg pain; in fact, their leg pain declined more.

## Good SPORT: Study offers more evidence

**H**undreds of thousands of people with back pain have surgery every year. Some with a common condition called spinal stenosis have found relief after surgery, but there had been no clear evidence it was better than nonsurgical treatment options. Now, the latest finding from the Spine Patient Outcomes Research Trial (SPORT) shows that people suffering from spinal stenosis, a narrowing of the spinal canal, improve more with surgery than with nonsurgical treatments.

**Back:** Spinal stenosis is the most frequent reason for low-back surgery in patients over 65. But until SPORT—a seven-year, \$21-million, Dartmouth-led study—no one knew for sure if it was the best choice because the options had never been tested in a large randomized trial. The same was true for two other common back conditions: herniated disk with sciatica and a variation of spinal stenosis, where one vertebra has slipped forward over the other, called spondylolisthesis. SPORT showed that surgery helped to varying degrees for those conditions, too (see [dartmed.dartmouth.edu/winter06/html/disc\\_papers.php](http://dartmed.dartmouth.edu/winter06/html/disc_papers.php) and [dartmed.dartmouth.edu/fall07/html/disc\\_sport.php](http://dartmed.dartmouth.edu/fall07/html/disc_sport.php) for details).

“For the first time,” says James Weinstein, D.O., SPORT’s principal investiga-

tor, “we have an evidence base on which to advise our patients.”

**Data:** In the stenosis study, 289 patients were randomly assigned to surgery or non-surgery groups, and 365 could choose to have surgery or not. As the study went on, many randomized patients changed their minds; some assigned to have surgery decided against it, and vice versa. So the paper, published in the February 21 issue of the *New England Journal of Medicine*, contains a dizzying array of numbers.

But the bottom line, says coauthor Tor Tosteson, Sc.D., is in the “as-treated” figures. When the data was analyzed according to what treatment people actually got—surgery or nonsurgical therapy—they found that surgery reduced pain and improved physical function much more. On a 100-point scale, surgery patients’ pain improved an average of 28 points (compared with 12 points for non-surgery patients). And surgery patients’ physical function improved an average of 25 points (compared to 10 points for non-surgery patients).

**Gain:** Those treated nonsurgically—with physical therapy or pain medications, for example—improved, too, just not as much as those who had surgery. “Any gain over 10 points on this scale seems to be worth it,” says Tosteson. For instance, 10 points can mean being able to lift a bag of groceries or not.

Weinstein and his coinvestigators have now launched a website using data from the stenosis trial to help patients (and doctors) estimate the benefits of surgery versus nonsurgery. There is still a lot of uncertainty, says Tosteson, because people’s health histories can vary widely. But for those with spinal stenosis, the decision of whether to go under the knife now has a little less guesswork and a little more evidence behind it. JENNIFER DURGIN

**Surgery reduced pain and improved physical function much more.**



Weinstein is the principal investigator for SPORT.

MARK WASHBURN

### Staying abreast of the news

Magnetic resonance imaging (MRI) just isn’t worth it as a breast-cancer screening tool for women who have already had a lumpectomy and radiation therapy. That’s the conclusion of Dartmouth researchers from the Departments of Surgery and Radiology. After analyzing the records of 471 women who received standard care, they estimated that the total cost of using annual MRIs to detect recurrences would have been more than \$7 million. “A total of 2,570 MRIs would have been performed,” they wrote in the *Annals of Surgical Oncology*, “but these would have been unlikely to change the therapy or survival of any of our patients.”

### A big-hearted mouse

When the Grinch’s heart grew three sizes in one day, he must have grown a lot of new blood vessels, too—at least according to a recent finding made by the lab of DMS’s Michael Simons, M.D. By manipulating a gene in a mouse, the researchers discovered that vessel density controls organ size. “An increase in the size of the vascular bed in the normal heart,” wrote Simons and his coauthors in the *Journal of Clinical Investigation*, “leads to increased cardiac mass and . . . increased cardiac performance.” In other words, more blood vessels result in a larger—and more powerful—heart.

