

Lasered disks

Hot new surgeries for back pain promise the moon. Are they promises in the dark?

Il it took was one false move. Patrick Barry was carrying a bundle of shingles on his shoulder, something the 22-year-old construction worker had done almost every day for the past four years. This time, though, he turned the wrong way, and a knotty, burning pain shot through his lower back. "I managed to tough it out for the rest of the day," Barry says, "but I picked up a bottle of vodka on the way home from work because I knew I was in for it."

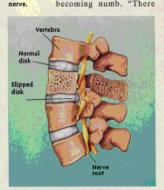
Little did he know what he was in for: a year of pain and disability. Barry had herniated a disk in his spine, and when conservative treatments failed, he faced major surgery. The operation would have entailed a week in the hospital and many more weeks of convalescence, plus up to \$25,000 in medical bills. But because of new advances, Barry's surgery took just a half-hour, and he returned home the same day, free of pain. The total cost: \$6,000.

Burn, Baby, Burn

Disks are gel-filled sacs that act as shock absorbers between the vertebrae, or bones of the spine. Under stress—hoisting a heavy suitcase, for example, or exercising improperly—they can "slip," bulging beyond their normal shape. Often, they press against a nerve root, causing

Disks are gel-filled sacs that act as shock absorbers between the bones of the spine. Under stress, they can "slip" and bulge against a agonizing pain down the buttocks and legs. Approximately two million Americans suffer herniated diskevery year, and active young men are prime candidates.

Most patients get better with time, rest and proper exercise. But not all. After a year-long regimen of aggressive physical therapy, strengthening exercises and chiropractic adjustments, Barry's pain had not abated and, ominously, his right foot was becoming numb. "There



were days I literally couldn't lift my legs out of bed in the morning," he says, "and days I ended up in tears because I thought I'd never again be the person I used to be."

An orthopedic surgeon took an X-ray and concluded there was nothing wrong but

BY AMY SUNSHINE

"poor circulation." Unsatisfied, Barry made his way to Daniel Choy, MD, whom a friend had recommended for acupuncture treatment. "Acupuncture relieved a lot of the muscle spasms," Barry recalls, "but the core pain was still there." Choy then referred Barry to a neurologist, who ordered a magnetic resonance imaging scan.

The herniated disk was finally spotted. Luckly, it was "contained"—the outer wall of the disk was intact, so no fragments of disk material had gotten loose into the spinal canal. That meant Barry had options, and he was in the right place to explore them.

It turned out Choy had more to offer than acupuncture. When he was director of the laser laboratory at St. Luke's-Roosevelt Medical Center in New York City, Choy had pioneered a new remedy for slipped disks called percutaneous laser disk decompression, or PLDD. The technique uses a laser beam to vaporize some of the fluid inside a disk, thus reducing the pressure it exerts on surrounding nerves. Choy has performed some 300 PLDD procedures and claims a success rate of 75 percent.

Barry was an ideal candidate. To his immense relief, the entire process was painless, "All I felt was a blunt

AdvancesInMedicine

pressure in my lower back when they guided in the needle," he recalls. Through this long, thin needle, Choy delivered short bursts of laser energy to the offending disk. "You could actually smell smoke as some of the liquid in the disk evaporated," Barry reports.

The procedure was over in 20 minutes, and the doctor applied a small bandage on the tiny incision. "As soon as he removed the needle—even before he set it down on the table—Dr. Choy told me to sit up," Barry continues. "I was a little light-headed, but most of the pain was gone." That night at home, he realized that, for the first time in months, he was regaining sensation in his foot.

Disk Hole Inferno

Don Roberts, of Santa Cruz, California, found a different option for treating the disk he'd herniated when he hit a tree stump while driving a tractor. Roberts underwent arthroscopic microscopic discectomy (AMD), a mini-version of traditional

Back Together Again

Avoiding undue physical stress or jarring movements should protect your lower back from injury. But if you do slip a disk—as happens to some two million people a year—how can you determine if PLDD and AMD are good options for you? Experts say it depends on the type of herniation you suffer.

If your pain is caused by a fragmented herniation—that is, some disk matter has broken free—the injury is probably severe and may require conventional surgery. However, if the disk damage is contained, one of these procedures might offer complete relief. But don't opt for either without taking a number of factors into serious consideration.

"Just because it's a small procedure doesn't make it a small decision," says spine specialist Stewart Dunsker, MD. "This is something to be taken very seriously and discussed at length with your doctor."

A second opinion may also be in order. "To protect my patients from my own natural enthusiasm," says spinal-surgery pioneer Daniel Choy, MD, "I insist that they get an independent evaluation from a neurosurgeon."

disk surgery. Instead of operating through a major incision, his surgeon passed a tiny viewing scope into the herniated disk through a small opening in his lower back. Surgical tools were inserted through the scope and used to cut away the offending portion of the disk. The surgeon finished off with a laser to vaporize some small particles that remained.

"Unlike traditional surgery, AMD poses almost zero risk of infection or damage to the nerve root," says James Reynolds, MD, director of the Spine Fellowship at Seton Medical Center in Daly City, California. Reynolds reports a success rate of 75 percent in 2,000 AMD operations he's performed, with no complications more serious than inflammation of the disk.

Proponents of AMD believe that although the procedure requires longer recuperation than laser decompression—as much as six weeks compared to a few days—it produces better results. "The laser alone doesn't remove enough of the disk material," Reynolds contends. A recent study by a group of Virginia researchers indicates that disks treated by AMD hold up better after two years than those treated with PLDD.

But Choy counters that AMD is an old-fashioned technique. "It sucks out some of the disk and chops it off," he says. "I call that mining. It's not stateof-the-art."

Back Talk

The two new treatments have generated heated controversy among neurosurgeons and orthopedic surgeons. "I think both procedures are total ripoffs," says Michael H. Lavyne, MD, who is an associate professor of neurosurgery at Cornell University Medical Center in New York City. "Patients with bulging disks have been treated without surgery for

"There's a tremendous placebo effect when a doctor sticks something in your back and you smell it frying."

years. Only patients with free fragments need surgical intervention. [These] doctors are jumping in with an invasive procedure."

He's particularly skeptical about PLDD. "If you put mint jelly on a probe and put it on a bulging disk, the patient will show improvement," Lavyne insists. "There's a tremendous placebo effect when a doctor sticks something in your back and you smell it frying."

"Some highly respected surgeons disagree vehemently about whether or not these procedures work," acknowledges Stewart Dunsker, MD, director of spinal neurosurgery at the University of Cincinnati. "But AMD and PLDD do have a role in treating a small number of patients who don't get better by themselves."

These techniques might not be the answer for everyone, agrees Thomas Errico, MD, chairman of the surgery committee at the North American Spine Society. He believes that perhaps 10 of the 300 herniated-disk patients he sees annually can benefit from one of these techniques.

The hope is that procedures like AMD and PLDD will eventually lead to treatments for a broader spectrum of lower-back injuries. "These new techniques are very important because they represent methods for handling a common problem on an outpatient basis while minimizing invasiveness and cost," Errico says. "They have potential but they remain to be scientifically proved. Definitive answers are not yet in."

Amy Sunshine is a New Jersey-based writer and the former health editor of Parents magazine.