

## Laser decompression effective in select herniated disc cases

Percutaneous laser disc decompression (PLDD) can provide almost immediate pain relief to patients who have failed conservative therapy, says **Daniel S.J. Choy, MD**, director of the Laser Spine Center in New York.

Choy, who has performed the procedure on about 265 patients since 1986, says PLDD has several advantages over conventional open surgery: The procedure is relatively noninvasive; there is no cutting or scarring; the anesthesia is local; and the procedure is outpatient.

In addition, the cost is one-third to one-half the cost of open surgery. In the city of New York, the cost to the patient for open surgery is \$20,000, compared to \$6,000 for PLDD, Choy says. The laser itself costs about \$49,500, and the delivery kits — which are single-use disposables — cost about \$600 apiece.

The principle behind PLDD is that in a closed hydraulic space (such as an intervertebral disc), a small change in volume results in a large change in pressure. With the patient under local anesthesia, the physician inserts an optical fiber into the herniated disc via a discogram needle and vaporizes a small volume of disc. The intradisc

pressure falls, causing the herniated portion to retract away from the nerve root and toward the center of the disc.<sup>1</sup>

PLDD is approved by the U.S. Food and Drug Administration in Rockville, MD, and reimbursable by most insurance carriers.

### Immediate pain relief

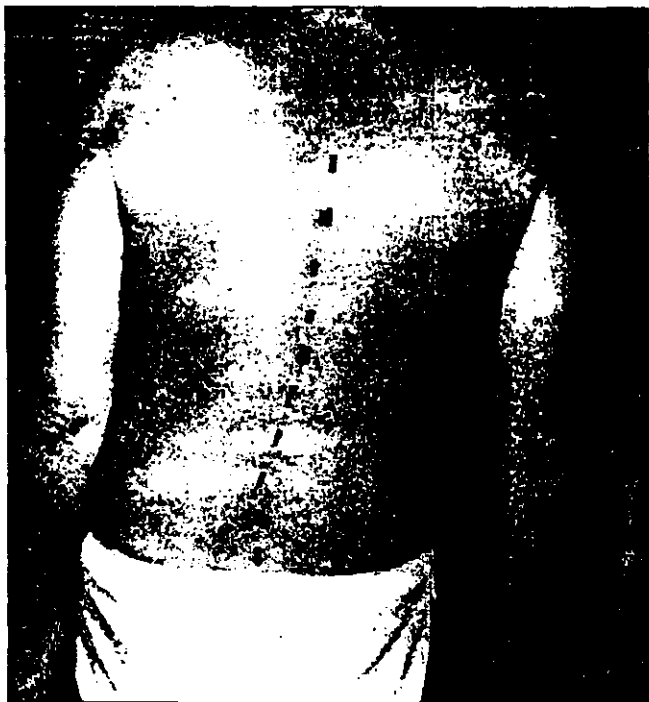
"Because the change in pressure is immediate, the patient experiences immediate pain relief," Choy says. "The patient's gait often goes immediately from limping to normal." (See the photos showing a patient's spinal alignment the day before and the day after surgery, below.)

"Because most of the patients who respond are free of pain upon leaving the table, it appears that the response is due to the pressure change, not chemical change, because it is so fast," Choy says.

Most patients are back to work within a week.

"While results are apparent within the first two weeks, continued denaturation of the disc probably also continues beyond the first two weeks postoperatively," Choy adds.

It is not always possible to document objectively the changes which result in improved symptoms. The best magnetic resonance imaging (MRI) cannot show changes under 2 mm, and the patient's symptoms are relieved with changes smaller than that, Choy explains.



As is visibly evident in these photographs of a patient the day before (left) and after percutaneous laser disc decompression, PLDD brings about almost immediate pain relief, says **Daniel S.J. Choy, MD**, director of the Laser Spine Center in New York.