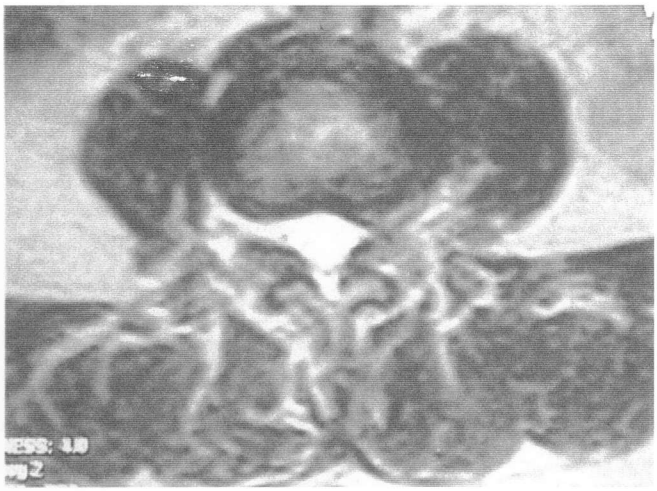
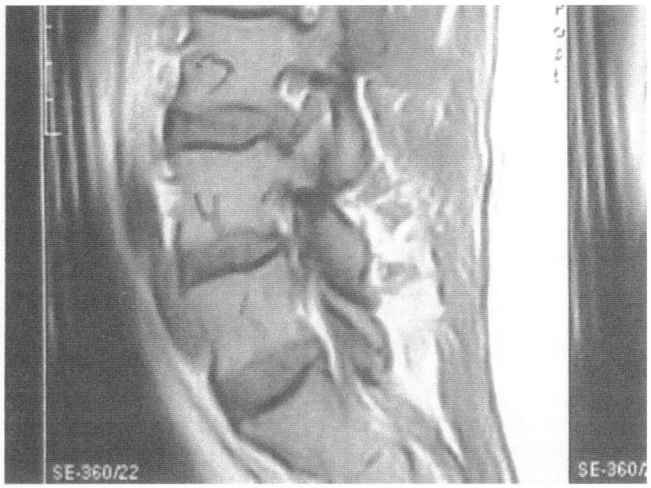
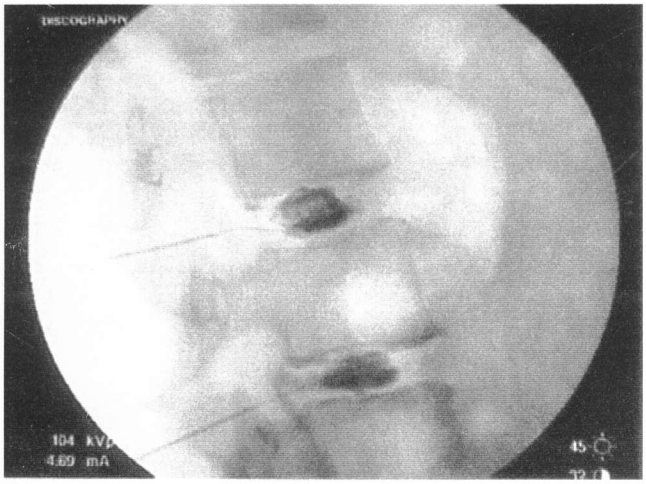






What did the MRI read?

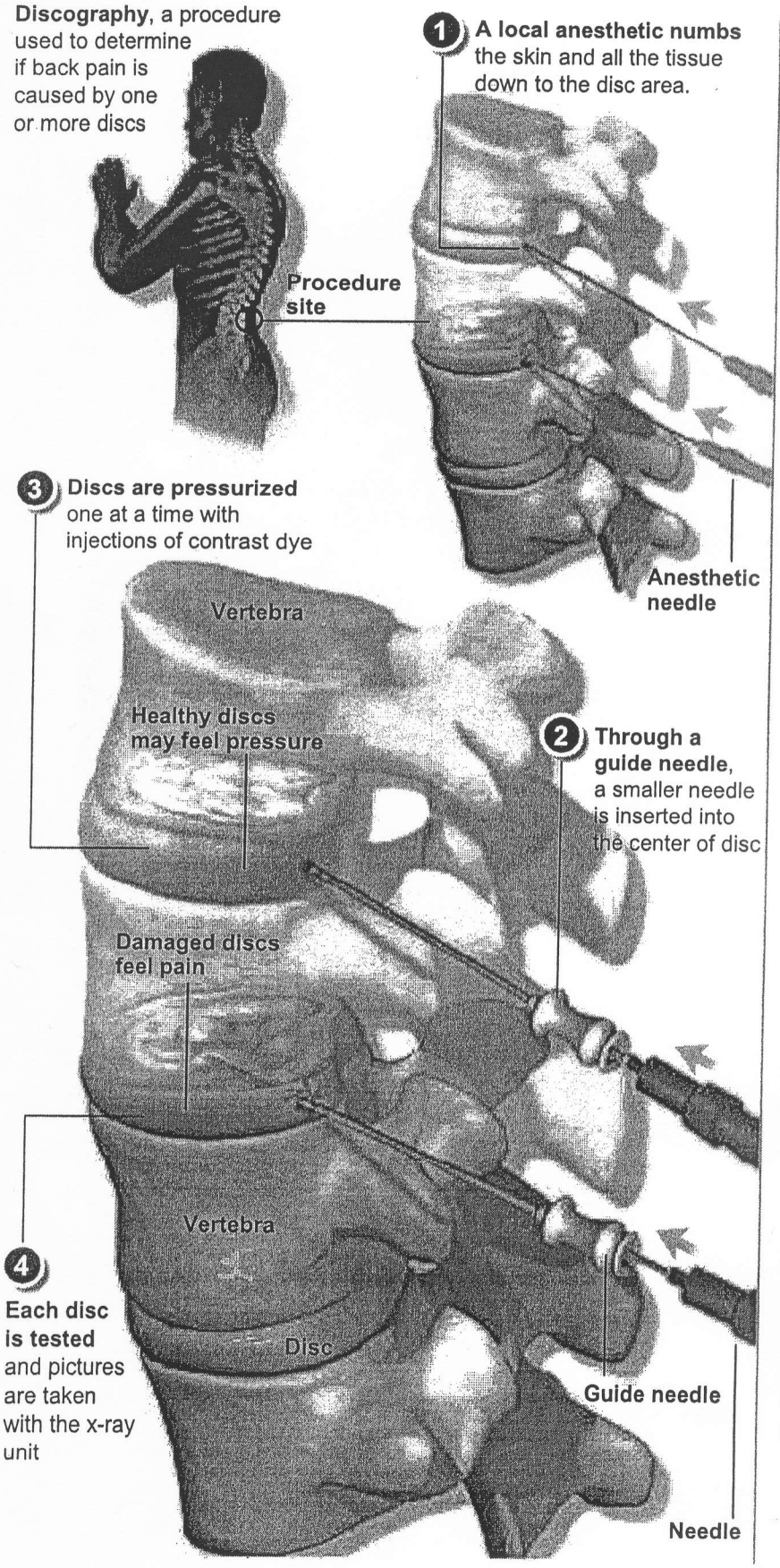
What does the Discography prove?

PROVACATIVE DISCOGRAPHY

Discography is a diagnostic tool, which definitively confirms or negates disc derangement, and correlates pain reproduction with disc pressure. It is a diagnostic test, which evaluated the integrity of a disc, as well as the effect of involved disc on the patient's pain.

Discography is performed by injecting a small amount of contrast directly into the disc, producing a real time fluoroscopic image of the disc. As a result of the increase pressure within the disc, the patient may experience pain. When this occurs, it is conclusive that the disc is the cause of pain.

This information is invaluable. Without question, this verifies that the abnormalities within the disc are the reason for the pain. While an MRI may be utilized to evaluate the integrity of a disc, often times, subtle indications of disc compromise are not clearly visualized. When a patient presents with symptoms that indicate a disc problem, but they are not responding to conservative care, discography is indicated to accurately assess the discs, and its contribution to the patient's pain.



Discography

Discography, or discogram, is a diagnostic procedure used to determine if back pain is caused by one or more discs and to help the surgeon plan the correct back surgery. The procedure involves pressurizing discs with an injection of sterile liquid to induce pain in the affected discs.

STEP 1

Patients lie either on their side or stomach on a table equipped with a special x-ray (fluoroscopic) unit, and an intravenous (IV) line administers medication that relaxes the patient. It is important for patients to be awake enough to tell the doctor what they are feeling. A local anesthetic numbs the skin and all the tissue down to the disc area.

STEP 2

Using x-ray (fluoroscopy) to find the right spot, the doctor inserts a guide needle through the anesthetized track to the outer edge of the disc. Through the guide needle, a smaller needle is inserted into the center of the disc. This may be repeated for more than one disc.

STEP 3

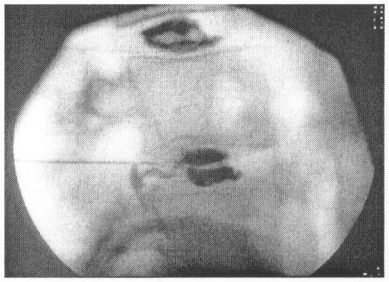
Once all the needles are placed, the discs are pressurized one at a time with injections of contrast dye. With each injection, patients feel either pressure or pain. If pain is felt, it is important for patients to compare it to the pain they had been experiencing. If it is the same, this may indicate this is a diseased disc.

STEP 4

After each disc is tested, pictures are taken with the x-ray unit and the needles are removed. Patients may be taken for a CT scan to obtain additional pictures of the inside of the discs.

END OF POCEDURE

Discography usually takes less than an hour to perform. The procedure may cause soreness for a few days. Patients are usually advised to take acetaminophen or ibuprofen and to ice the affected area for several minutes each day until the soreness subsides.



Nucleoplasty

- Percutaneous disc decompression
- Patients with symptomatic contained disc protrusions
- Tissue is ablated by creating small channels in the disc
- Channels are thermally treated

Nucleoplasty- *Optimal* Patient Selection

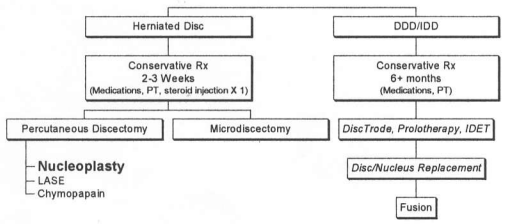
Radicular/Axial Pain

- Leg pain ≥ back pain
- MRI evidence of contained disc protrusion
- Failed selective nerve root block x 1

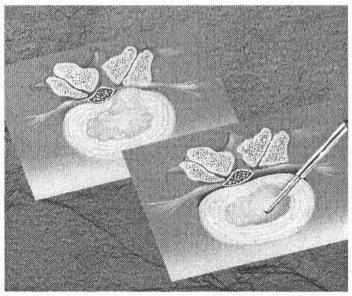
Axial Back Pain

- Discography positive for concordant pain
- Disc height ≥ 75%
- Central disc protrusion

Treatment Algorithm



Nucleotome - Surgical Dynamics



Advantages

- **Minimally invasive**
- **No scarring**
- **Outpatient**
- **Local anesthesia**
- **Burn no bridges**

Nucleoplasty Advantages

- Minimal Intraoperative Pain
- Fast
  - Average Operative Time - 5 Minutes
- Minimal Postoperative Pain
  - 1 - 2 Tylenol #3
- No Postop Back Brace
- Quick Rehabilitation
  - 10 Days Postop

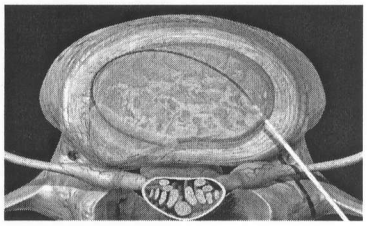
Nucleoplasty - Percutaneous Disc Decompression: Results

- Mean VAS reduction of 3.14
- 69% total resolution of leg pain
- 86% did not require narcotics after six months
- 89% Patient Satisfaction after six months
- No complications
- Mean procedure time: 8.3 minutes

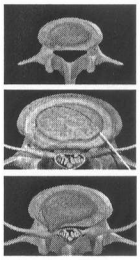
Yung C. Chen, MD, Sang-Heon Lee, MD, Eunice Lau, MD, Stanford University Interventional Spine Center, Stanford, CA

Percutaneous Disk Decompression

Decompression Catheter
Focal Decompression at the Site of Pathology



Indications



Axial Discogenic Back Pain **IDET Procedure**

Herniation with back and/or leg pain **Nucleoplasty**
Herniation with annular tear **Decompression**

Large extrusion or sequestration **MicroDisketomy**

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August 1996 Hayashi et al

Intra Discal ElectroThermal IDET™

- Discogenic Thermoablation
- Modifies Annular Collagen Fibers
- For Chronic, Symptomatic Diskogenic Pain

Spine