



Spine Intervention: Percutaneous Discectomy (Nucleoplasty)

Percutaneous discectomy is a minimally invasive procedure for the treatment of contained disc herniation. Tissue is removed from the disc relieving pressure on the affected nerve. It is used to treat patients with radicular pain related to a lateral disc herniation such as in sciatica. It may also be helpful in patients with axial pain related to a disc protrusion against the posterior longitudinal ligament. This method provides an alternative to standard spine surgery in properly selected patients.

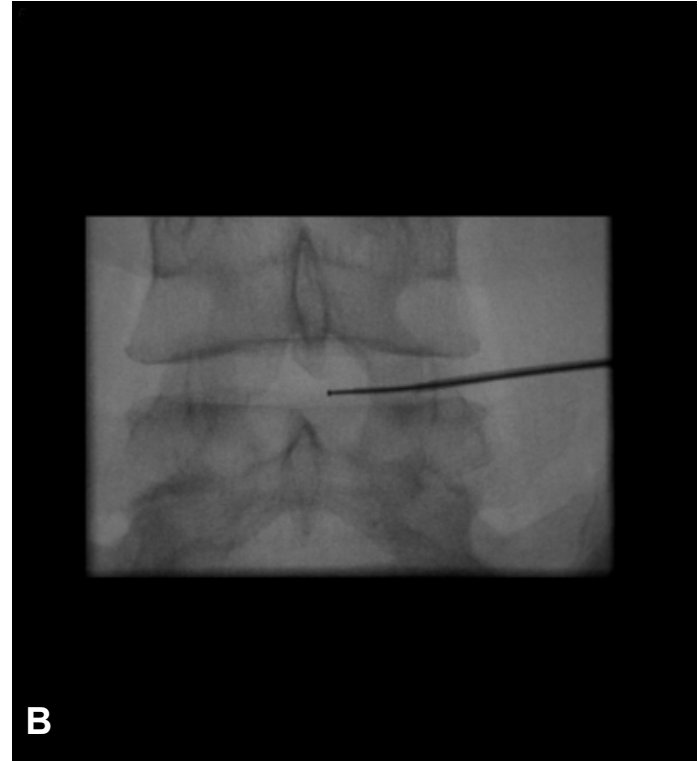
Pain or weakness can be caused by a disc herniation pushing on a spinal nerve. Physicians need to correlate clinical findings with MRI, CT/myelogram or discography prior to treatment. Percutaneous discectomy takes about an hour to perform. Patients are given conscious sedation and local anesthesia. A needle is placed into the disc under fluoroscopic visualization, and a catheter like device is guided into the disc. The disc is then treated by mechanical means, radio frequency or thermoelectric ablation reducing the size and pressure of the disc on the spinal nerve. The device is removed and the small incision in the skin is treated by manual compression. Patients will experience relief as pressure is taken off the affected nerve with published success rates greater than 80%. Patients are kept in the hospital for several hours of observation. Patients are discharged with instructions to gradually re-establish normal activity over the next few days.

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(A) Sagittal CT reformat image following discogram shows a disc herniation at L4-5.

(B) Plain film of the spine shows localization of the disc under fluoroscopy. The Nucleoplasty device has been placed into the disc for partial ablation to decrease pressure on the spinal nerves.

The Neurovascular Service at Massachusetts General Hospital provides a multidisciplinary approach to patient care that combines neurosurgery, neurology and interventional neuroradiology. Based in the Department of Radiology, the Neurovascular Service's Interventional Neuroradiology Program uses minimally invasive procedures to treat a range of neurovascular disease and spinal disorders. For more information, visit www.mgh-interventional-neurorad.org

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