

Lumbar disc herniation—conclusions

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I would like to confirm the utility of the American Academy of Orthopaedic Surgeons recommendations for intervention for disc herniation: A) functionally incapacitating pain in the leg, extending below the knee with a nerve root distribution, B) nerve root tension signs (positive SLR) with or without neurological abnormalities, fitting the radiculopathy, C) failure of clinical improvement after four to eight weeks of conservative therapy, and D) confirming imaging study; abnormal myelogram, CT, or MRI, correlated to the physical signs and distribution of the pain.

A confirmatory imaging study is indicated only if surgery is contemplated. The strongest criterion from the confirmatory studies is the extruded or sequestered disc. The "bulging disc" should not be used in radiologic terminology or as an indication for surgery. Clinical symptoms and findings remain the most important basis for diagnosis.

The patient must have radiculopathy with pain below the knee in excess of his low back pain, and the tension signs (SLR) should reproduce his sciatica. Sensory disturbances and minor motor weakness should not influence the surgical decision. Cauda equina syndrome and an acute profound muscular weakness may be indications for earlier confirmatory tests and possible surgical intervention.

I recognize the lack of positive studies supporting any of the commonly used conservative management methods, including prolonged bed rest, traction, epidural injections and so forth (Weber et al. 1984, Nachemson 1992).

Less than optimal surgical results have been found in those that have an adversarial workers compensation situation, limited patient understanding of the condition, measurable psychological distress, or predominant back pain (Gray et al. 1985, Herron and Turner 1985, North et al. 1991).

Studies on results of disc hernia surgery all emphasize inappropriate patient selection as the leading cause of surgical failure. Natural history studies demonstrate a substantial incidence of spontaneous improvement within three to four months.

If surgery is contemplated in someone who fulfills the above criteria, a few studies indicate poorer results when symptoms continue unabated for more than four months (Weber 1978).

International and national comparisons of frequencies of surgery for disc herniations may indicate that surgery is performed two to four times too often in the United States (Deyo et al. 1992). This means a substantial cost for society that is further increased by the number of so called failed backs. Again, international comparisons demonstrate a failed-back rate of around 15% in North America but of no more than 5% in some western European societies (North et al. 1991).

Recent statistics from 1979 to 1987 compiled by the Back Pain Outcome Assessment Team in Seattle indicate a rapidly growing number of both disc excision and fusion operations performed each year, which will further escalate these costs (Deyo et al. 1992, Turner et al. 1992).

One randomized study in publication (Revel et al. 1993) does not indicate efficacy of percutaneous discectomy. Most studies comparing surgical discectomy in the appropriate case with chemonucleolysis have shown superior clinical results with surgery (Ejeskär et al. 1983, van Alphen et al. 1988, Nachemson and Rydevik 1988, Tregonning et al. 1991). Randomized studies of chemonucleolysis versus saline injection seem to indicate that chemonucleolysis might have some beneficial effect (Gogan and Fraser 1992).

There are absolutely no studies demonstrating a particular superiority among the present commonly used surgical interventions: on the contrary one published study (Tullberg et al. 1993) seems to find no difference, nor is there any support for adding a fusion to an ordinary discectomy for herniation in the lumbar spine (Nachemson 1985, Deyo et al. 1992).

All the other new methods presented here today have been supported only by short term biased follow-up of small patient materials for a limited period of time. At the present time none of them can be recommended.

There is an imperative need for appropriate, reliable and validated outcome measures that can be applied to much needed prospective randomized control studies for both nonoperative and operative treatment methods (Rudicel and Esdaile 1985).

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