

FAILED BACK SURGERY

The management of patients with persistent low back or leg symptoms after lumbar disc operations poses many diagnostic and therapeutic difficulties to the responsible surgeon. Long and short-term follow-up studies of such patients have clarified some of the reasons for these failures, have outlined methods of treatment, and have analyzed results.

The purpose of this talk is to evaluate the long-term results of lumbar disc surgery with and without fusion and reflect on the series at Stanford University Medical Center over the past 10 years, (400 cases). I have specifically excluded patients with significant structural abnormalities such as spondylolisthesis.

One question to be raised and discussed is that of primary lumbar fusion. In several studies statistics have shown that those who have a fusion have a 10% greater chance of reoperation in the first five years. Then, an almost equal number of unfused patients presented for second operations. The indications for second surgeries included failure of fusion and disc recurrence, (also a combination of the above). 10% of cases were generally reflected in this population. Approximate statistics: new disc above the old fusion was 4 in 200 patients.

Recurrent disc herniations at the same level as in previous surgery are the most common sources of failure in those patients who undergo simple discectomy. Mechanical back pain, thought to be due to segmental instability at the previous operated level is the second most common indication for repeat surgery. Nerve root scarring and arachnoiditis are considered uncommon sources of failure in groups with or without fusion.

In statistical studies, there is no significant difference between fusion and nonfusion patients with respect to their initial presenting symptoms, duration of symptoms, level of operation, compensation background, occupation or after care. The usual definition of an unsatisfactory result is: 1) constant severe pain, 2) inability to work or perform activities of daily living secondary to back or leg symptoms. Those with primary fusions had more back and leg symptoms postoperatively and were less satisfied with their surgery and had more unsatisfactory results (20%). A variability is present. If a patient was part of an ongoing program in the medical center, the result is 10% better (similarly to primary surgery).

Interestingly, in three series, patients with a reoperation – especially for recurrence of disc – who underwent fusion at the second operation have half as many long-term complaints.

As you will note, on the handouts, I have summarized the experience at Stanford University Medical Center with failed primary surgeries. Most patients have been operated once prior, 50% were industrial patients. Four hundred patients comprised a series. No psychological testing was formally done, although it is well-recognized that a patient's personality profile is significantly related to symptomatic relief following surgery. Instead, a standing plaster body jacket and the patient's response to that was judged by Dr. John Hanbery, Chief of Neurosurgery to be a test of the emotional and physical response to potential internal fixation. It was placed in such a way that sitting was difficult and the patient's lifestyle was significantly affected - including clothing, activity, food intake, etc. Almost without exception (95%) patients who tolerated the cast and improved psychologically and physically improved with surgery (fusion and radical discectomy at the involved levels). All patients with L4-5 discs had a bilateral L4-5 and L5-S1 discectomy and bilateral transverse process facet and spinous process fusions using the patient's iliac crest bone. This was followed by a three-month course in a cast and then 3-6 months in a chairback brace and subsequent rehabilitation exercises including distance swimming and extended walking. No work was allowed for six months postoperatively and generally speaking for nine months.

The overall result was:

Compensation Cases - 80% return to useful work

Non-compensation Cases - 90% return to useful work (work for pay with minimal medications)

NOTES:

1. Fusion vs. primary discectomy without fusion has no simple advantage as a primary procedure.
2. 14.7% with simple laminectomy and discectomy require reoperation.
3. 10-15% with primary fusion require reoperation secondary to pseudarthrosis.
4. Persistent neurological findings were present in 15% of patients unrelated to age or operative trauma.
 - A. Possible occurrence of spinal stenosis secondary to fusion hypertrophy - McNab's series, 34 of 380 cases. This factor may be more significant than previously thought.
5. Slight advantage to primary fusion - not much though graft site pain occurs from 30-35%.

"THE FAILED BACK"

ITEM III. EDUCATIONAL OBJECTIVES

- A. Understanding the dynamic operative and lumbar disc failures.
- B. The role of arthrodesis in the treatment of disc disease.
- C. The role of non-operative measures in the treatment of disc disease.
- D. Realizing practical goals and treatment.