Three Level Lumbar Disc Replacement - A 2 Year Follow up

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Purpose: Multi-level disc pathology in the young active patient is becoming more prevalent with advancing diagnostic modalities. Such cases have often been considered difficult to manage, being “too young” for multi-level fusion and yet suffering considerable pain and disability. This paper highlights the triage, surgical technique issues and rehabilitation designed specifically to optimise results.

Methods: Fifteen patients, with discogenic pain, underwent total disc replacement at three affected contiguous levels. Exhaustive non-operative treatment with physical therapy and interventional pain procedures was carried out preoperatively for a minimum of one year. Facet injections at all three levels provided no significant pain relief. All patients underwent pressure controlled, provocative discography at a minimum of four levels, demonstrating severe concordant pain reproduction at three contiguous levels, with healthy adjacent discs. A period of prehabilitation was carried out for all patients to optimize muscular control. All patients had a minimum follow-up of two years.

Results: Oswestry scores improved from 49.5 pre-operatively to 7.6 at 2 years, t< 0.001. Thirteen of the 15 patients considered themselves pain free at final follow up, with VAS falling from 7.80 (back pain) pre-operatively to 0.93 at 2 years, t< 0.001.

Conclusions: Multilevel disc replacement surgery is an alternative to traditional arthrodesis, and may provide increased mobility and similar relief of pain without increased risk to adjacent discs.