



## Introduction

Spine Service is a multidisciplinary team of spine surgeons, pain physicians, sports physicians, physiotherapists, nurses and pain psychologists, and offers a holistic approach to the management of spinal problems. Having the entire team under one roof allows us to tailor the management plan to the individual needs of patients and their referring physicians. For more information about Spine Service log on to [www.spineservice.com.au](http://www.spineservice.com.au)



The friendly team at Spine Service

This quarterly newsletter aims to promote communication between general practitioners and other health professionals and the team at Spine Service and will comprise of news from the world of spine surgery and interesting case studies.

## News from the World of Spine Surgery

The National Institutes of Health (NIH) sponsored a \$21 million randomised controlled trials (Spine Patient Outcomes Research Trial - SPORT) to compare the surgical and non-surgical treatment outcomes of three common spinal conditions namely: 1. Lumbar disc herniation, 2. Spinal stenosis, and 3. Degenerative spondylolisthesis. The

outcomes measures used were the SF-36 and the Oswestry Disability Index.



In the lumbar disc herniation trial (*JAMA*, Nov 2006) 245 patients were randomized to have surgery and 256 were to have non-surgical treatment. The results were  
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## Spine Service

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National Institutes of Health sponsored trials to compare treatment outcomes of three common spinal conditions

## News from the World of Spine Surgery

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confounded by extensive cross-over between the groups as only 60% of patients randomised to have surgery actually underwent surgery and 45% of patients in the non-surgical group underwent surgery.



Consequently, the intent-to-treat analysis showed that both groups improved substantially at 2-years but the results (not statistically significant) were in favour of the surgical group for all outcomes and at all time periods. However, an observational study which included patients who did not choose to be randomized (528 – surgery and 191 – non-surgical care) showed significantly better outcomes in the surgical group at all time points.



The spinal stenosis trial, (*NEJM May*

2007) enrolled 289 patients in the randomised cohort and 365 patients in the observational cohort. Despite the high incidence of crossover, the intent-to-treat analysis of the randomised cohort showed a significant treatment effect favoring surgery on the SF-36 scale for bodily pain, however, there was no significant difference in scores on physical function or on the Oswestry Disability Index. The as-treated analysis, which combined both cohorts showed a significant advantage for surgery by 3 months and these changes remained significant at 2 years.



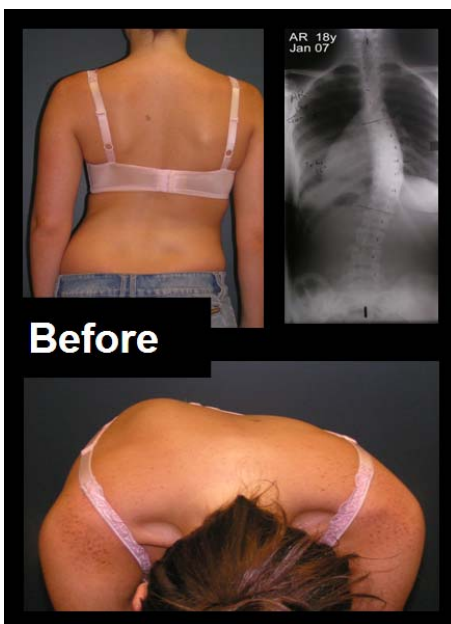
304 patients with degenerative lumbar spondylolisthesis (*NEJM Feb 2008*) were assigned to a randomised cohort while 303 patients chose to be in the observational cohort. Due to the high cross-over rate, the intent-to-treat analysis for the randomised cohort

showed no statistically significant effects for the primary outcomes. However, the as-treated analysis for both cohorts combined showed a significant advantage for surgery at 3 months that increased at 1 year.

### Highlights

- ◆ NIH funded study compares the outcomes following surgery and non-operative treatment for common spinal conditions
- ◆ Surgery is more effective than non-operative treatment for lumbar disc herniation, spinal canal stenosis and degenerative spondylolisthesis.

## Case Discussion



Pre and post operative photographs and x-rays



Miss A is a 19 year old girl who presented in January 2006 with a progressive scoliotic curve in the spine. In view of her progressive curve, loss of spinal balance, waist asymmetry and rib hump (on bending forwards) Dr. Greg Etherington performed an anterior corrective surgery. The surgery was performed through an open thoracotomy followed by removal of the intervertebral discs and screws and rods were used to perform and maintain the correction. Post operative photographs and the radiograph show a good correction of the curve with disappearance of the waist asymmetry and rib hump - an excellent outcome.