

# Preface

## Surgery for spinal stenosis: more thought, less metal?

Welcome to the third edition of *JSS*. We have received several excellent commentaries based on two recently published randomized controlled trials in the *New England Journal of Medicine* on the topic of surgery for lumbar spinal stenosis in the context of spondylolisthesis (1,2). These two thought provoking articles have elicited a number of diverse opinions in the literature, based on the importance of this degenerative condition which is a major contributor to pain and disability in the elderly.

The practice of non-instrumented surgical decompression to treat lumbar spinal stenosis has reduced in the United States in the last decade, while the procedure of decompression and fusion has increased many fold during this period (3,4). Degenerative spondylolisthesis is understood to be linked with a risk of progressive instability following decompression surgery (5,6), however evidence showing an advantage of the addition of fusion to decompression in the patient without spondylolisthesis, or a stable listhesis on flexion/extension X-rays, is deficient. The practice of fusion in addition to decompression is performed in approximately half of all patients in North America (7,8) although this approach varies significantly throughout the world, and potentially less likely with surgeons whom undertake minimally invasive options for decompression due to reduced iatrogenic injury at the time of surgery (9,10). Furthermore, the increased complication profile of fusion surgery and the more complex nature of this intervention is associated with greater health care costs and longer hospital stays as well as significant additional costs of the instrumentation (11).

Försth and Ghogawala *et al.* provide evidence proposing minimal additional value in adding instrumented fusion to simple decompression surgery (1,2). The studies report that standard decompression was compared with decompression plus instrumented fusion among patients who had lumbar spinal stenosis, limited to one or two lumbar levels. The observed cohort did not demonstrate spinal instability, being the most common form of spinal stenosis. Interestingly, the Oswestry Disability Index (ODI) did not differ significantly between the treatment groups in either study, however there were differences in primary and secondary outcome measures. Note should be made that the disease-specific ODI is a better outcome measure for the treatment of spinal stenosis, and that the improvements in the scores on the ODI did not differ significantly between the two surgical methods.

A surgeons approach to the operative management of lumbar spinal stenosis, with or without spondylolisthesis and instability, should be based on best evidence. We are proud to present additional opinions by authors Pearson, Joaquim, and Greenway and Papadopoulos, and encourage surgeons with an enquiring mind to ask questions based on recent literature, to formulate their own approach of when to utilize the addition of instrumentation. There are however further questions to be asked based on the nuances of patient pathology that the recent literature does not address. These include issues of facet angle and morphology, the presence of facet joint cyst with stenosis, degree of disc degeneration with canal stenosis, sagittal balance and the effect of prior intervention at the index level. All of these additional pathologies and dynamics will need to be factored into surgical decision making, however at this stage, best evidence dictates that the addition of fusion should be done so with caution in the patient population of lumbar canal stenosis.

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