The impact of surgical wait time on patient-based outcomes in posterior lumbar spine surgery (by J. Braybrooke et al.)

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Accepted: 14 July 2007 / Published online: 8 August 2007
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The hazards of waiting lists are all too well known. Dabke et al. [2] studied 101 patients undergoing surgery for scoliosis. The mean waiting time between listing and surgery was 8 months. Whilst on the waiting list, significant curve progression occurred in 50/101 (50%) patients and ultimately 29/101 (29%) patients required more surgery than originally planned increasing complexity, morbidity and cost of surgery.

Here at last we have a prospective observational study assessing the influence of waiting time on patient-derived *functional outcome measures* for those undergoing posterior lumbar spinal surgery. Policy-makers should sit up and take note!

The authors studied 70 consecutive patients undergoing spinal decompression or fusion for degenerative conditions of the lumbar spine. Follow-up was available for 53/70 (76%) patients at 12 months. Of these 53 patients, 30 underwent spinal decompression and 23 underwent spinal fusion. The authors used a well-validated generic health status measure, the short form 36 (SF-36) and a disease-specific questionnaire, the Oswestry disability index (ODI). Data was collected by an independent evaluator who was blinded to the treatment. The operating surgeon was blinded to baseline outcome measures. The relationship between wait time and surgical outcome was tested using a Cox proportional hazards regression model.

As a whole the group demonstrated both clinically relevant and statistically significant improvements in six of eight domains from the SF-36. The mean ODI improved by 16.6% points over the study period. Patients who had a *longer* wait for surgery had a *lower* likelihood of improvement in functional outcome scores. On average those patients requiring spinal fusion had a longer wait time compared to those waiting for spinal decompression. However, the authors controlled for surgery type as a covariate in the statistical analysis. Forty percent of patients believed waiting time had a negative impact on their perceived clinical condition, physical and mental well being.

This study does have limitations: 76% follow-up at 1 year is a short-term follow up, particularly for those undergoing spinal fusion. Administering the questionnaire relating to the patient's wait for assessment and investigations at the *final* follow-up introduces the possibility of recall bias. Interestingly the 'short waiters' (those who waited less or equal to the median surgical wait time of the study cohort) had pre-operative ODI scores (mean 50.3) that were *higher* than the 'long waiters' (mean 40.3). This raises the possibility of selection bias, whereby surgeons were inadvertently prioritizing patients with higher disability. We are not given the post-operative outcome measures of these two cohorts to further assess this. Nevertheless the authors have shown that a longer wait time for surgery *negatively* influences the functional outcome measures following surgery.

Airaksinen et al. [1] in the European guidelines for the management of chronic non-specific low back pain (CLBP) state, 'We cannot recommend fusion surgery for CLBP unless 2 years of all other recommended conservative treatments have failed'. Taking into account the above, this 'imposed sentence' of 2 years for patients seems harsh and may serve only to reduce the chances of successful outcomes following surgery.

This reviewer's comment refers to the article
<http://dx.doi.org/10.1007/s00586-007-0452-5>.

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Hansson et al. [3] estimated the societal costs of having patients on paid sick-leave whilst on a waiting list for elective procedures including lumbar discectomy and lumbar spinal decompression. The costs for paid sick leave together with future costs for those granted permanent disability were 90 million SEK (almost 90 million USD), corresponding to an equivalent cost of more than 2,000 disc operations.

The authors have further consolidated the view that, ‘Waiting lists are bad for your health’. Decision makers should work not only to reduce waiting times for spinal surgery, but also to investigate ways of preventing patient deterioration whilst on such waiting lists.

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