



# Australian Association of Musculoskeletal Medicine

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## A Comparison of Common Elective Orthopaedic Surgical Procedures. F1000 Ranking: "Changes Clinical Practice"

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### Commentary from Nikolai Bogduk

**Changes Clinical Practice:** *Physicians should avoid performing surgery on patients with chronic low back pain unless and until it can be shown that there is a genuine prospect of it improving quality of life, instead of making it deteriorate.*

**This study showed that total hip replacement is the most effective orthopaedic operation for pain and that surgery for spinal stenosis or disc herniation is about as effective as total knee replacement. Surgery for lower back pain was patently unsuccessful.**

By reputation, total hip replacement is the most successful orthopaedic procedure for relieving chronic pain. It provides a benchmark against which the efficacy of other procedures can be compared. This study compared the gains in quality of life achieved by total hip replacement, total knee replacement, surgery for spinal stenosis, disc excision for lumbar disc herniation, and arthrodesis for chronic low back pain. Outcomes were assessed using the SF36 and EuroQoL (EQ-5D) instruments at one year after surgery. Total hip replacement was clearly the most successful intervention. It reduced pain to levels normal for age, reduced physical functioning to within 75% normal levels, and restored quality of life to virtually normal levels. Total knee replacement was the next most successful procedure. It all but eliminated pain, improved physical functioning to 60% normal, and restored quality of life to within 65% of normal. Surgery for spinal stenosis and for disc herniation were not as successful as total hip replacement but were comparable to total knee replacement in their success. Pain was reduced to within 60% of normal levels, function improved to 65% normal, and quality of life was improved by about 50%. For chronic lower back pain, improvements were statistically significant but clinically negligible. Although pain was reduced and function improved slightly, outcomes remained in the moderately affected range, quality of life was not improved and, indeed, was rendered worse, on average. These data show that surgery for spinal stenosis and for disc herniation compare well with archetypical orthopaedic operations. Neither is as effective as total hip replacement, but the gains achieved are nonetheless laudable. Disconcerting are the outcomes of surgery for chronic lower back pain, whose outcomes do not even approach those of other orthopaedic procedures. Indeed, the data show that patients with back pain are rendered worse off by surgery. These data echo the many concerns raised to date about the utility of surgery for back pain. The distinction of this study is that it used assessment instruments that are not condition-specific, and which allow comparison of outcomes between different conditions. The utility spine surgery for back pain is so lacking that it does not deserve to be counted in the armamentarium of successful orthopaedic procedures.

Faculty of 1000 Medicine Evaluations, Dissents and Author responses for: [Hansson T, Hansson E, Malchau H. Utility of spine surgery: a comparison of common elective orthopaedic surgical procedures. *Spine* 2008 Dec 1 33(25):2819-30]. 2009 Jan 26  
[www.f1000medicine.com/article/id/1147063/evaluation](http://www.f1000medicine.com/article/id/1147063/evaluation)