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Cost-utility Study And Life Quality Improvement After Instrumented Lumbar Fusion In Elderly Patients Over 80 Years Old

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Cost utility in the treatment of degenerative aging spine

- Spinal surgery LBP is one of the most rapidly growing surgical disciplines in medicine, substantially increasing health care costs.
- Debate is still continuing on the efficacy of surgery to cure LBP Vs. natural history and non-operative treatment.

In an age of **limited financial resources**, there is an increasing demand not only to analyze the therapeutic efficacy of the treatment modalities but also to consider related economic and societal costs.

- Norbert Boos. *The impact of economic evaluation on quality management in spine surgery. Eur Spine J (2009) 18 (Suppl 3):S338–S347*

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- Quality Adjusted Life Year (QALY) Scale

- A quality-adjusted life year (QALY) is a measure of a person's life expectancy and the quality of the remaining life-years.
- A QALY gives an idea of how many extra months or years of life of a reasonable quality a person might gain as a result of treatment.



How is quality of life measured?

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Determination of a specific dollar value threshold for appropriate medical treatment.

- The UK is believed to have a threshold of £30,000 per QALY (twice the mean income):
 - Any health intervention with an incremental cost of more than £30,000 per additional QALY gained is likely to be rejected
 - And any intervention with an incremental cost of less than £30,000 per extra QALY gained is likely to be accepted as cost-effective.
- In USA a figure of \$50,000 per QALY is often considered cost effective.
- *Shah, K.K. "Is the aim of the health care system to maximise QALYs? An investigation of 'what else matters' in the NHS". OHE Research Paper. Office of Health Economics. 24 July 2011.*

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The aim of our study is to determine the clinical, functional improvement and QALYS gained in elderly patients over 80 years old undergoing lumbar instrumented arthrodesis during a 2-year period.



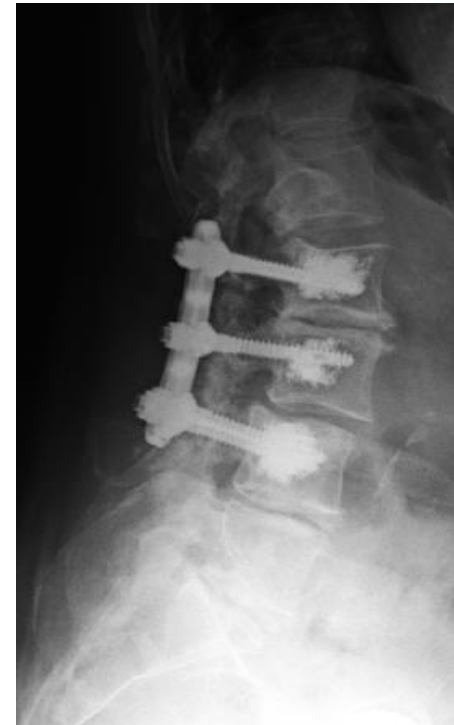
- Retrospective study
- 25 patients older than 80 years of age
- Underwent 1-2 levels instrumented spinal fusion
- Symptomatic Spinal Stenosis
- Determine the cost/QALY gained during a 2-year period across the HRQOL 6D SF36.

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- Perioperative Complications: 1 dural tear; 1 superficial + 2 deep wound infections (reop); 1 transient radiculalgia
- Follow-up Complications: 1 sacral insufficiency fracture; 2 adjacent disc disease
- 2 patients died of unrelated causes during follow-up.

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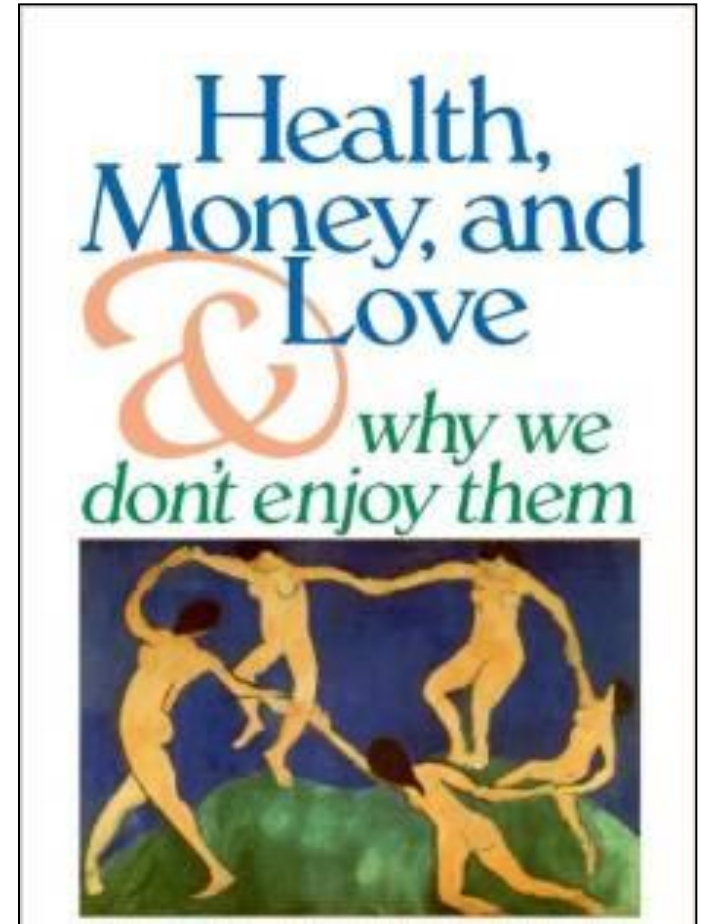


- There was a statistically significant improvement in the Oswestry Disability Index from a mean preoperative value of 61.8 to 31.8 at final follow-up.
- The mean health utility value gained over the 2-year postoperative showed a cumulative 0.60 QALY improvement

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This study demonstrates significant functional improvement after instrumented lumbar fusion in elderly patients >80 years old despite a high postoperative complication rate.

There is a growing demand not only to examine the efficacy of the treatment modalities but also to consider the related economic and social costs.



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