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| **Table 4 – Utility Values and sources** | | |
| Author | Utility values for key states | Sources |
| **Low back pain decision modelling studies** | | |
| Lloyd et al. (2004) [17] | No utility values used | |
| Kim et al. (2010) [14] | Well 0.96  Acute LBP 0.85  CLBP Usual Care 0. 62  CLBP Acupuncture 0.65 | KNHNS Survey [54]  KNHNS Survey [54]  Pragmatic trial of acupuncture for CLBP [62]  Pragmatic trial of acupuncture for CLBP [62] |
| Wielage et al. (2013a) [18] | CLBP on Duloxetine 0.7541  CLBP on Celecoxib 0.7688  CLBP on Naproxen 0.7688  CLBP on Pregabalin 0.7282  CLBP on Oxycodone 0.7628 | Meta-analysis of pain scores in CLBP trials  Meta-analysis of CLBP trials in CLBP trials  Meta-analysis of CLBP trials in CLBP trials  Poster presentation [assume trial] [86]  Meta-analysis of CLBP trials in CLBP trials |
| Wielage et al. (2013b) [19] | See Wielage et al. (2013a) | Wielage et al. (2013a) |
| Norton et al. (2015) [15] | LBP Improved 0.640  LBP Not-improved 0.592 | RCT cognitive behavioural programme for low back pain [66] |
| **Sciatica decision modelling studies** | | |
| Launois et al. (1994) [16] | No utility values stated in the paper | |
| Lewis et al. (2011) [11] | Sciatica - Improved 0.83  Sciatica - Not Improved 0.37 | RCT comparing conservative care versus early surgery in patients with sciatica from lumbar disc herniation [47] |
| Skidmore et al. (2011) [23] | CC 0.61 – 0.65\*  XStop 0.62 – 0.79\*  Laminectomy 0.53 - 0.67\* | Utilities for all three states were based upon the X-STOP clinical Spacer trial [67], but in addition to values stated left included disutility’s for adverse events which were provided by the panel of experts |
| Fitzsimmons et al.  (2014) [21] | See Lewis et al. (2011) | See Lewis et al. (2011) |
| Koenig et al. (2014) [25] | Satisfactory outcome 0.89  Unsatisfactory outcome 0.56  Revision surgery 0.69 | Economic evaluation of cost-effectiveness of lumbar discectomy for the treatment of herniated intervertebral disc [25] |
| Udeh et al. (2015) [22] | Authors only provide QALY Gain | |
| Igarashi et al. (2015) [20] | CLBP with neuropathic component  No / mild pain 0.867  Moderate pain 0.739  Severe Pain 0.611 | Derived from NRS scores, obtained from an 8-week Non-intervention study of pregabalin [75] |
| Parker et al. (2015) [24] | Authors only provide QALY Gain | |
| Tapp et al. (2018) [50] | Conservative Care / Pre Surgery 0.71  Post-surgery 0.77  Post - Major surgical complication 0.55  Major complication -0.08  Non-major complication -0.04 | SPORT trial [74] & observational study [78]  SPORT trial [74] & observational study [78]  Expert Opinion  Expert opinion  Expert opinion |
| **Sciatica decision modelling studies – surgical treatments** | | |
| Kuntz et al. (2000) [26] | Symptoms of spinal stenosis 0.79  CLBP 0.79  Symptom free 0.97 | Beaver Dam Health Outcomes Study [34] |
| Kim et al. (2012) [27] | Patients with lumbar spondylolisthesis  Baseline 0.58  Decompression Improve 0.74  Decompression Not improve 0.50  Decompression Fusion Improve 0.74  Decompression Fusion Not Improve 0.54 | All data from their surgical cohort reported within the paper, and “best available” literature. |
| Parkinson et al. (2012) [31] | AIDR Pre-OP 0.42  AIDR @ 1 year 0.71  AIDR @ 2 years 0.67  PLF / PLIF Pre-Op 0.36  PLF / PLIF @ 1 year 0.63  PLF / PLIF @ 2 years 0.69 | All utilities derived from RCT evaluating total disc replacement to lumbar fusion, with 2‐year follow‐up [82] |
| Schmier et al. (2014) [28] | Lumbar spinal stenosis  Clinical success 0.692  Clinical failure 0.552  New or worsening pain 0.599 | Randomized Investigational Device Exemption clinical trial comparing Coflex to instrumented fusion [84] |
| Bydon et al. (2015) [30] | Lumbar spondylolisthesis  Positive outcome 0.97  Chronic back pain / Neurologic deficit 0.79 | Taken from Kuntz et al. [26] who took from Beaver Dam Health Outcomes Study [34] |
| Vertuani et al. (2015) [32] | Minimally Invasive Surgery for Spinal Fusion after 2-years 0.72  Open Surgery for Spinal Fusion after 2-years 0.68 | The Swedish National Registry for Lumbar Spine Surgery [85] |
| Yaghoubi et al. (2016) [29] | No utility values provided | |
| Abbreviations; AIDR (Artificial disc replacement); CC (Conservative care); CLBP (Chronic Low back pain); KNHNS (Korean National Health and Nutrition Surveys); LBP (Low back pain); NRS (Numerical Rating Scale); NSAID (Nonsteroidal anti-inflammatory drug); PLF (posterolateral fusion); PLIF (posterolateral interbody fusion); QALY (Quality adjusted life year); RCT (Randomised Controlled Trial) | | |
| \*Time varying (ranges shown), weighted for adverse events | | |