## Online supplementary information

Tables demonstrating univariate and multivariate analysis of factors predicting poor walking ability 12 months after surgery for data sets with 12 month ODI walking score (n=4,559)

### Table 6: Factors predicting walking ability 6 months following surgery for complete data sets at 12 months – Univariate analysis

| Pre-operative factors | 6 months following surgery | Coefficient | 95% C of the coefficient | P-value |
|-----------------------|----------------------------|-------------|--------------------------|---------|
| **Age categories**    |                           |             |                          |         |
| <60                   | Ref                       |             |                          |         |
| 60-64.5               | 0.006                     | (-0.05, 0.06) | 0.803                    |
| 65-69.5               | -0.01                     | (-0.06, 0.04) | 0.592                    |
| 70-74.5               | -0.02                     | (-0.09, 0.04) | 0.372                    |
| ≥75                   | -0.006                    | (-0.07, 0.06) | 0.830                    |
| **Gender**            |                           |             |                          |         |
| (female)              | Ref                       |             |                          |         |
| Male                  | -0.03                     | (-0.09, 0.02) | 0.177                    |
| **BMI Categories (kg/m²)** |                       |             |                          |         |
| <20                   | Ref                       |             |                          |         |
| 20-24.9               | -0.02                     | (-0.09, 0.05) | 0.564                    |
| 25-29.9               | -0.01                     | (-0.09, 0.07) | 0.783                    |
| 30-34.9               | 0.02                      | (-0.05, 0.10) | 0.534                    |
| 35-39.9               | 0.06                      | (-0.008, 0.14) | 0.084                    |
| ≥40                   | 0.07                      | (-0.04, 0.18) | 0.204                    |
| **Maximum walking distance (meters)** | 0.00003 | (-0.0003, 0.003) | 0.807 |
| **Time stood (minutes)** | 0.005 | (-0.001, 0.01) | 0.086 |
| **Duration of symptoms (years)** | 0.003 | (-0.001, 0.007) | 0.121 |
| **Neurological deficit** |                           |             |                          |         |
| No                    | Ref                       |             |                          |         |
| Yes                   | 0.003                     | (-0.02, 0.03) | 0.775                    |
| **Presence of comorbidity** |                       |             |                          |         |
| No                    | Ref                       |             |                          |         |
| Yes                   | 0.07                      | (0.03, 0.10) | **0.007**                |
| **Work status**       |                           |             |                          |         |
| No                    | Ref                       |             |                          |         |
| Yes                   | 0.08                      | (-0.05, 0.21) | 0.150                    |
| **Education**         |                           |             |                          |         |
| Up to & including secondary school | Ref |             |                          |         |
| Higher education      | 0.005                     | (-0.04, 0.21) | 0.150                    |
| **Use of analgesia**  |                           |             |                          |         |
| No                    | Ref                       |             |                          |         |
| Yes                   | 0.008                     | (-0.17, 0.19) | 0.907                    |
| **Surgery type**      |                           |             |                          |         |
| No discectomy         | Ref                       |             |                          |         |
| Discectomy            | 0.12                      | (0.07, 0.17) | **<0.001**               |
| **Zung (baseline)**   | 0.0007                    | (-0.008, 0.009) | 0.826                    |
| **Fear avoidance (work) (baseline)** | -0.002 | (-0.009, 0.004) | 0.298                    |
| **Fear avoidance (pain) (baseline)** | 0.003 | (-0.002, 0.008) | 0.186                    |
| **Back pain (NRS)**   | 0.06                      | (-0.004, 0.02) | 0.172                    |
| **Leg pain (NRS)**    | -0.01                     | (-0.02, -0.003) | **0.015**               |
| **Quality of life (EQ-5D-5L Health VAS)** | -0.0001 | (-0.0005, 0.0002) | 0.343 |
| **Quality of life (EQ-5D-5L)** | -0.09 | (-0.17, -0.009) | **0.034**               |
Prediction of walking ability following posterior decompression for lumbar spinal stenosis

| Pre-operative factors | Coefficient | 95% C of the coefficient | P-value |
|-----------------------|-------------|--------------------------|---------|
| Disability (ODI)      | 0.008       | (0.005, 0.01)            | 0.003   |

Abbreviations: BMI: body mass index; VAS: visual analogue scale; ODI: Oswestry Disability Index; NRS: numerical rating scale

Table 7: Factors predicting walking ability 6 months following surgery for complete data sets at 12 months – Multivariate analysis

| Pre-operative factors | 6 months following surgery | OR | 95% Confidence Interval | P-value |
|-----------------------|----------------------------|----|-------------------------|---------|
| **Age categories**    |                            |    |                         |         |
| <60                   | Ref                        |    |                         |         |
| 60-64.5               | 1.08                       | (1.01, 1.24) | 0.011 |
| 65-69.5               | 0.95                       | (0.82, 0.99) | 0.024 |
| 70-74.5               | 0.98                       | (0.97, 1.39) | 0.095 |
| ≥75                   | 1.34                       | (1.11, 1.60) | **0.007** |
| **Gender**            |                            |    |                         |         |
| (female)              | Ref                        |    |                         |         |
| Male                  | 0.97                       | (0.88, 1.07) | 0.580 |
| **BMI Categories (kg/m^2)** |                      |    |                         |         |
| <20                   | Ref                        |    |                         |         |
| 20-24.9               | 0.86                       | (0.60, 1.24) | 0.442 |
| 25-29.9               | 0.94                       | (0.66, 1.33) | 0.741 |
| 30-34.9               | 1.08                       | (0.75, 1.55) | 0.656 |
| 35-39.9               | 1.24                       | (105, 1.87) | **0.015** |
| ≥40                   | 1.17                       | (1.02, 1.96) | **0.005** |
| **Maximum walking distance (meters)** |                  |    |                         |         |
|                      | 1.10                       | (1.02, 1.15) | **0.021** |
| **Time stood (minutes)** |                  |    |                         |         |
|                      | 1.01                       | (0.99, 1.02) | 0.144 |
| **Duration of symptoms (years)** |                  |    |                         |         |
|                      | 1.00                       | (0.99, 1.01) | 0.378 |
| **Neurological deficit** |                      |    |                         |         |
| No                   | Ref                        |    |                         |         |
| Yes                  | 1.00                       | (0.92, 1.08) | 0.958 |
| **Presence of comorbidity** |                      |    |                         |         |
| No                   | Ref                        |    |                         |         |
| Yes                  | 1.33                       | (0.98, 1.47) | 0.564 |
| **Work status**      |                            |    |                         |         |
| No                   | Ref                        |    |                         |         |
| Yes                  | 1.21                       | (0.98, 1.47) | 0.064 |
| **Education**        |                            |    |                         |         |
| Up to & including secondary school |                |    |                         |         |
| Higher education     | 0.74                       | (0.67, 0.81) | **<0.001** |
| **Use of analgesia** |                            |    |                         |         |
| No                   | Ref                        |    |                         |         |
| Yes                  | 0.97                       | (0.71, 1.34) | 0.856 |
| **Surgery type**     |                            |    |                         |         |
| No discectomy        | Ref                        |    |                         |         |
| Discectomy           | 1.25                       | (1.11, 1.39) | **<0.001** |
| **Zung (baseline)**  |                            |    |                         |         |
|                      | 1.00                       | (0.98, 1.01) | 0.930 |
| **Fear avoidance (work) (baseline)** |                  |    |                         |         |
|                      | 0.99                       | (0.97, 1.01) | 0.412 |
| **Fear avoidance (pain) (baseline)** |                  |    |                         |         |
|                      | 1.00                       | (0.99, 1.01) | 0.136 |
| **Back pain (NRS)**  |                            |    |                         |         |
|                      | 1.03                       | (0.95, 1.12) | 0.156 |
| **Leg pain (NRS)**   |                            |    |                         |         |
|                      | 1.01                       | (1.00, 1.04) | **0.007** |
| **Quality of life (EQ-5D-5L Health VAS)** |                  |    |                         |         |
|                      | 1.00                       | (0.99, 1.00) | 0.271 |
Prediction of walking ability following posterior decompression for lumbar spinal stenosis

| Pre-operative factors          | OR   | 95% Confidence Interval | P-value |
|-------------------------------|------|-------------------------|---------|
| Quality of life (EQ-5D-5L)    | 0.72 | (0.53, 0.98)            | 0.039   |
| Disability (ODI)              | 1.01 | (1.01, 1.02)            | <0.001  |

Abbreviations: BMI: body mass index; VAS: visual analogue scale; ODI: Oswestry Disability Index; NRS: numerical rating scale