

TABLE E-1 Patient Baseline Demographic Characteristics, Comorbid Conditions, Clinical Findings, and Health Status Measures

| Baseline Variable | Nonobese Cohort (BMI <30 kg/m ²) (N = 854) | Obese Cohort (BMI ≥30 kg/m ²) (N = 336) | P Value |
|-----------------------------------|--|---|---------|
| Demographic characteristics | | | |
| Age* (yr) | 42 ± 11.7 | 40.9 ± 10.6 | 0.13 |
| Female sex† | 346 (41%) | 161 (48%) | 0.024 |
| Education: at least some college† | 653 (76%) | 230 (68%) | 0.006 |
| Income: under \$50,000† | 346 (41%) | 189 (56%) | <0.001 |
| Marital status: married† | 599 (70%) | 235 (70%) | 1 |
| Work status† | | | 0.20 |
| Full or part-time | 522 (61%) | 199 (59%) | |
| Disabled | 104 (12%) | 54 (16%) | |
| Other | 228 (27%) | 83 (25%) | |
| Compensation†‡ | 136 (16%) | 72 (21%) | 0.03 |
| BMI* (kg/m ²) | 25.2 ± 2.8 | 35 ± 4.5 | <0.001 |
| Smoker | 213 (25%) | 69 (21%) | 0.13 |
| Comorbidities† | | | |
| Hypertension | 89 (10%) | 73 (22%) | <0.001 |
| Diabetes | 22 (3%) | 26 (8%) | <0.001 |
| Depression | 90 (11%) | 51 (15%) | 0.033 |
| Heart problem | 45 (5%) | 16 (5%) | 0.83 |
| Lung problem | 25 (3%) | 18 (5%) | 0.064 |
| Stomach problem | 82 (10%) | 60 (18%) | <0.001 |
| Bowel or intestinal problem | 45 (5%) | 35 (10%) | 0.002 |
| Liver problem | 8 (1%) | 5 (1%) | 0.61 |
| Kidney problem | 24 (3%) | 4 (1%) | 0.15 |
| Blood vessel problem | 9 (1%) | 7 (2%) | 0.27 |
| Nervous system problem | 11 (1%) | 7 (2%) | 0.45 |
| Joint problem | 147 (17%) | 74 (22%) | 0.066 |
| Other§ | 346 (41%) | 179 (53%) | <0.001 |
| Health status measures | | | |
| SF-36 scores*# (points) | | | |
| Bodily pain | 27.9 ± 20.2 | 25.0 ± 19.7 | 0.025 |
| Physical function | 39.7 ± 25.8 | 32.5 ± 24 | <0.001 |
| Vitality | 40.1 ± 20.1 | 34.3 ± 19.7 | <0.001 |
| Physical component summary | 31.3 ± 8.5 | 28.5 ± 8 | <0.001 |
| Mental component summary | 45.4 ± 11.6 | 44.5 ± 11.5 | 0.22 |
| Oswestry Disability Index*** | 48.4 ± 21.3 | 52.4 ± 20.9 | 0.003 |
| Sciatica Frequency Index*†† | 15.7 ± 5.4 | 16.3 ± 5.3 | 0.089 |
| Sciatica Bothersomeness Index*†† | 15.4 ± 5.3 | 16 ± 5.3 | 0.054 |

| | | | |
|--|-----------|-----------|-------|
| Low Back Pain Bothersomeness Index*‡‡ | 3.8 ± 1.9 | 4.1 ± 1.8 | 0.05 |
| Satisfaction with symptoms: very dissatisfied† | 685 (80%) | 269 (80%) | 0.98 |
| Patient self-assessed health trend† | | | 0.13 |
| Getting better | 135 (16%) | 43 (13%) | |
| Staying about the same | 389 (46%) | 144 (43%) | |
| Getting worse | 324 (38%) | 148 (44%) | |
| Treatment preference at baseline† | | | 0.003 |
| Preference for nonoperative treatment | 307 (36%) | 86 (26%) | |
| Not sure | 133 (16%) | 64 (19%) | |
| Preference for operative treatment | 413 (48%) | 185 (55%) | |
| Clinical findings† | | | |
| Pain radiation | 831 (97%) | 329 (98%) | 0.69 |
| Straight leg raise test: ipsilateral | 529 (62%) | 219 (65%) | 0.33 |
| Straight leg raise test: contralateral or both | 136 (16%) | 52 (15%) | 0.92 |
| Any neurological deficit | 655 (77%) | 245 (73%) | 0.20 |
| Reflexes, asymmetric depressed | 345 (40%) | 135 (40%) | 1 |
| Sensory, asymmetric decrease | 436 (51%) | 167 (50%) | 0.72 |
| Motor, asymmetric weakness | 368 (43%) | 131 (39%) | 0.22 |
| Herniation level† | | | 0.33 |
| L2-L3 or L3-L4 | 66 (8%) | 22 (7%) | |
| L4-L5 | 316 (37%) | 139 (41%) | |
| L5-S1 | 472 (55%) | 174 (52%) | |
| Herniation type† | | | 0.97 |
| Protruding | 229 (27%) | 92 (27%) | |
| Extruded | 564 (66%) | 219 (65%) | |
| Sequestered | 61 (7%) | 24 (7%) | |
| Posterolateral herniation† | 672 (79%) | 245 (73%) | 0.04 |
| Underwent surgery†§§ | 542 (63%) | 246 (73%) | 0.002 |

*The values are given as the mean and the standard deviation. †The values are given as the number of patients, with the percentage in parentheses. ‡This category includes patients who were receiving or had applications pending for Workers' Compensation, Social Security compensation, or other compensation. §Other indicates problems related to stroke, diabetes, osteoporosis, cancer, fibromyalgia, chronic fatigue syndrome, posttraumatic stress disorder, alcohol or drug dependency, migraine, anxiety, and diseases of the heart, lungs, liver, kidneys, blood vessels, nervous system, stomach, or bowels. #The SF-36 scores range from 0 to 100 points, with higher scores indicating less severe symptoms. **The Oswestry Disability Index ranges from 0 to 100 points, with lower scores indicating less severe symptoms. ††The Sciatica Frequency Index and the Sciatica Bothersomeness Index both range from 0 to 24 points, with lower scores indicating less severe symptoms. ‡‡The Low Back Pain Bothersomeness Index ranges

from 0 to 6 points, with lower scores indicating less severe symptoms. §§Patients undergoing surgery were classified according to whether they received operative treatment during the first four years of enrollment.

TABLE E-2 Change from Baseline in Secondary Outcome Measures of Operatively Managed Patients According to BMI*

| Outcome Scale | Change from Baseline | | | |
|--|----------------------|-------------|-------------|-------------|
| | One Year | Two Years | Three Years | Four Years |
| Operative treatment cohort | | | | |
| Sciatica Bothersomeness Index†‡ | | | | |
| Nonobese patients | -11.3 ± 0.3 | -11.3 ± 0.3 | -11.5 ± 0.3 | -12.1 ± 0.3 |
| Obese patients | -10.8 ± 0.4 | -10 ± 0.4 | -10 ± 0.4 | -10.1 ± 0.4 |
| P value | 0.26 | 0.003 | 0.001 | <0.001 |
| Very or somewhat satisfied with symptoms (%) | | | | |
| Nonobese patients | 73.8 | 76.9 | 75.7 | 78.3 |
| Obese patients | 74.1 | 70.3 | 70.9 | 72.3 |
| P value | 0.92 | 0.072 | 0.23 | 0.12 |
| Self-rated progress: major improvement (%) | | | | |
| Nonobese patients | 83.8 | 80.1 | 77.3 | 80.4 |
| Obese patients | 81.8 | 74.1 | 72.8 | 75 |
| P value | 0.53 | 0.089 | 0.24 | 0.15 |
| Work status: working (%) | | | | |
| Nonobese patients | 85.9 | 86 | 86.6 | 86.9 |
| Obese patients | 86.6 | 84.4 | 77.2 | 77.5 |
| P value | 0.82 | 0.64 | 0.014 | 0.014 |
| Low Back Pain Bothersomeness Index†§ | | | | |
| Nonobese patients | -2.2 ± 0.1 | -2.2 ± 0.1 | -2.3 ± 0.1 | -2.3 ± 0.1 |
| Obese patients | -2 ± 0.1 | -1.8 ± 0.1 | -1.8 ± 0.1 | -1.9 ± 0.1 |
| P value | 0.31 | 0.012 | 0.003 | 0.011 |
| Nonoperative treatment cohort | | | | |
| Sciatica Bothersomeness Index†‡ | | | | |
| Nonobese patients | -8.3 ± 0.3 | -8.2 ± 0.3 | -8.6 ± 0.3 | -8.3 ± 0.4 |
| Obese patients | -6.7 ± 0.5 | -7.2 ± 0.6 | -6.8 ± 0.6 | -7.5 ± 0.6 |
| P value | 0.011 | 0.11 | 0.006 | 0.26 |
| Very/somewhat satisfied with symptoms (%) | | | | |
| Nonobese patients | 46.5 | 51.3 | 51.5 | 49.2 |
| Obese patients | 36 | 41 | 44.9 | 38.4 |
| P value | 0.09 | 0.11 | 0.33 | 0.13 |
| Self-rated progress: major improvement (%) | | | | |
| Nonobese patients | 57.6 | 62.1 | 56.8 | 80.4 |
| Obese patients | 45.4 | 48.9 | 47.5 | 75 |
| P value | 0.058 | 0.033 | 0.18 | 0.15 |
| Work status: working (%) | | | | |
| Nonobese patients | 84.2 | 84.1 | 80.4 | 78.6 |
| Obese patients | 84.3 | 87.4 | 77.7 | 77 |
| P value | 0.97 | 0.48 | 0.67 | 0.81 |

| Low Back Pain Bothersomeness Index†§ | | | | |
|--------------------------------------|------------|------------|------------|------------|
| Nonobese patients | -1.4 ± 0.1 | -1.4 ± 0.1 | -1.5 ± 0.1 | -1.4 ± 0.1 |
| Obese patients | -1 ± 0.2 | -1.5 ± 0.2 | -1.2 ± 0.2 | -1.4 ± 0.2 |
| P value | 0.021 | 0.71 | 0.10 | 0.75 |

*The values have been adjusted for race, center, age, sex, marital status, smoking status, compensation, herniation location, working status, depression, other comorbidities (including stroke, diabetes, osteoporosis, cancer, fibromyalgia, chronic fatigue syndrome, posttraumatic stress disorder, alcohol or drug dependency, hypertension, migraine, anxiety, and diseases of the heart, lungs, liver, kidneys, blood vessels, nervous system, stomach, or bowels), self-rated health trend, duration of the most recent episode, treatment preference, and baseline score (for SF-36, the Oswestry Disability Index, the Sciatica Bothersomeness Index, and the Low Back Pain Bothersome Index). †The values are given as the mean and the standard error in points. ‡The Sciatica Bothersomeness Index ranges from 0 to 24 points, with lower scores indicating less severe symptoms. §The Low Back Pain Bothersomeness Index ranges from 0 to 6 points, with lower scores indicating less severe symptoms.

TABLE E-3 Treatment Effect of Surgery Measured by Secondary Outcome Measures According to BMI*

| Outcome Scale | Treatment Effect† | | | |
|---|---------------------|---------------------|---------------------|---------------------|
| | One Year | Two Years | Three Years | Four Years |
| Sciatica Bothersomeness Index‡ (points) | | | | |
| Nonobese patients | -3.1 (-3.9 to -2.2) | -3.1 (-3.9 to -2.2) | -2.9 (-3.7 to -2) | -3.8 (-4.7 to -2.9) |
| Obese patients | -4.1 (-5.4 to -2.9) | -2.8 (-4.1 to -1.5) | -3.2 (-4.6 to -1.9) | -2.6 (-4.1 to -1.2) |
| P value | 0.14 | 0.71 | 0.65 | 0.17 |
| Very or somewhat satisfied with symptoms (%) | | | | |
| Nonobese patients | 27.3 (19.5 to 35.1) | 25.6 (17.9 to 33.4) | 24.2 (16.1 to 32.3) | 29.1 (20.7 to 37.5) |
| Obese patients | 38.1 (26.7 to 49.6) | 29.4 (17 to 41.8) | 26 (12.5 to 39.5) | 33.9 (20.5 to 47.4) |
| P value | 0.16 | 0.81 | 0.96 | 0.74 |
| Self-rated progress: major improvement (%) | | | | |
| Nonobese patients | 26.1 (18.7 to 33.6) | 17.9 (10.3 to 25.6) | 20.5 (12.3 to 28.7) | 26.6 (18.1 to 35) |
| Obese patients | 36.4 (24.8 to 48.1) | 25.2 (12.6 to 37.9) | 25.3 (11.6 to 38.9) | 29.9 (16 to 43.8) |
| P value | 0.30 | 0.53 | 0.70 | 0.92 |
| Work status: working (%) | | | | |
| Nonobese patients | 1.7 (-4.3 to 7.8) | 1.9 (-4.3 to 8) | 6.2 (-0.7 to 13.1) | 8.3 (0.7 to 16) |
| Obese patients | 2.2 (-6.4 to 10.9) | -3 (-11.4 to 5.5) | -0.6 (-13 to 11.9) | 0.5 (-12.7 to 13.8) |
| P value | 0.91 | 0.39 | 0.29 | 0.22 |
| Low Back Pain Bothersomeness Index§ (points) | | | | |
| Nonobese patients | -0.7 (-1 to -0.4) | -0.8 (-1.1 to -0.5) | -0.8 (-1.1 to -0.5) | -0.9 (-1.2 to -0.6) |
| Obese patients | -1.1 (-1.5 to -0.7) | -0.3 (-0.7 to 0.1) | -0.7 (-1.1 to -0.3) | -0.5 (-0.9 to -0.1) |
| P value | 0.20 | 0.085 | 0.70 | 0.19 |

*The values are given as the mean, with the 95% confidence interval in parentheses. The values have been adjusted for race, center, age, sex, marital status, smoking status, compensation, herniation location, working status, depression, other comorbidities (including stroke, diabetes, osteoporosis, cancer, fibromyalgia, chronic fatigue syndrome, posttraumatic stress disorder, alcohol or drug dependency, hypertension, migraine, anxiety, and diseases of the heart, lungs, liver, kidneys, blood vessels, nervous system, stomach, or bowels), self-rated health trend, duration of the most recent episode, treatment preference, and baseline score (for SF-36, the Oswestry Disability Index, the Sciatica Bothersomeness Index, and the Low Back Pain Bothersomeness Index). †The treatment effect is the difference between the operative and nonoperative mean change from baseline. Analysis is done with use of a mixed model with a random subject intercept term. Treatment is a time-varying covariate in which the patient experience prior to surgery is attributed to the nonoperative arm and time is measured from enrollment and the patient postoperative outcomes are attributed to the surgical arm and time is measured from time of surgery. ‡The Sciatica Bothersomeness Index ranges from 0 to 24 points, with lower scores indicating less severe symptoms. §The Low Back Pain Bothersomeness Index ranges from 0 to 6 points, with lower scores indicating less severe symptoms.