Copyright $\ensuremath{\mathbb{C}}$ The Authors. Published by The Journal of Bone and Joint Surgery, Incorporated MacLean et al.

 $Evaluating\ Instability\ in\ Degenerative\ Lumbar\ Spondylolisthesis.\ Objective\ Variables\ Versus\ Surgeon\ Impressions\ http://dx.doi.org/10.2106/JBJS.OA.22.00052$

Page 1

The following content was supplied by the authors as supporting material and has not been copy-edited or verified by JBJS.

APPENDICES

Appendix A: Evidence Quality Scoring and DSIC Points Conversion System

| Quality of Evidence Rating | Score |
|-----------------------------------|----------|
| Very low | Excluded |
| Low | 1 point |
| Moderate | 2 points |
| High | 3 points |

^{*} Quality of Evidence for variables associated with instability were previously scored by the Canadian Spine Outcomes Research Network, according to systematically conducted review and appraisal of the scientific literature (Simmonds et al. *J Neurosurg Spine*, **2015**, *23(2)*:178-89). Here we *a priori* assign point values based on quality of evidence.

Copyright ${\hbox{$\mathbb C$}}$ The Authors. Published by The Journal of Bone and Joint Surgery, Incorporated MacLean ET al.

 $Evaluating\ Instability\ in\ Degenerative\ Lumbar\ Spondylolisthesis.\ Objective\ Variables\ Versus\ Surgeon\ Impressions\ http://dx.doi.org/10.2106/JBJS.OA.22.00052$

Page 2

Appendix B: Patient Demographic Characteristics

| Variable Age (mean ± SD) | | n (%) 65.8 ± 9.0 | | | |
|-----------------------------|-------------------------------------|--|--|--|--|
| | | | | | |
| Gender | Male | 126 (41%) | | | |
| Genuci | Female | 183 (59%) | | | |
| Marital | Married | 210 (69%) | | | |
| Status | Not Married | 93 (31%) | | | |
| Living | Living w/ Someone | 235 (77%) | | | |
| Arrangement | Living alone | 71 (23%) | | | |
| | ≤HS | 140 (46%) | | | |
| Education | >HS | 165 (54%) | | | |
| Smoking | Smoker | 48 (16%) | | | |
| Status | Non-smoker | 256 (84%) | | | |
| | Unemployed | 39 (13%) | | | |
| Employment | Employed | 80 (26%) | | | |
| Status | Retired | 163 (53%) | | | |
| | Other | 23 (8%) | | | |
| Static Transla | ation (Standing) | $7.4 \pm 3.8 \text{ mm}$ Range: $1.0 - 53.0 \text{ mm}$ | | | |
| Static Translation (Supine) | | $6.1 \pm 4.1 \text{ mm}$ Range: $0 - 40.0 \text{ mm}$ | | | |
| Dynamic Translation | | 2.0 ± 3.4 mm | | | |
| Mean D | isc Height | 10.0 ± 14.7 mm | | | |
| | perative Visual or Low Back Pain | $7.0 \pm 2.1 \text{ mm}$ | | | |

Copyright ${\hbox{$\mathbb C$}}$ The Authors. Published by The Journal of Bone and Joint Surgery, Incorporated MacLean ET al.

 $Evaluating\ Instability\ in\ Degenerative\ Lumbar\ Spondylolisthesis.\ Objective\ Variables\ Versus\ Surgeon\ Impressions\ http://dx.doi.org/10.2106/JBJS.OA.22.00052$

Page 3

Appendix C: O-DSIC Scores for the Study Cohort

| Total Score | | | | | | | | |
|-------------|-------------|------|------|------|-----|-----|-----|--|
| | 0 1 2 3 4 5 | | | | | | | |
| n | 4 | 44 | 128 | 106 | 24 | 3 | 309 | |
| % | 1.3 | 14.2 | 41.4 | 34.3 | 7.8 | 1.0 | 100 | |

Copyright $\ensuremath{\mathbb{G}}$ The Authors. Published by The Journal of Bone and Joint Surgery, Incorporated MacLean ET al.

 $Evaluating\ Instability\ in\ Degenerative\ Lumbar\ Spondylolisthesis.\ Objective\ Variables\ Versus\ Surgeon\ Impressions\ http://dx.doi.org/10.2106/JBJS.OA.22.00052$

Page 4

Appendix D: Degree of Difference Between S-DSIC and O-DSIC Types Per Patient

| | Surgeons unde instabili | | Similar estimate of instability* | Surgeons over estimate instability* | | |
|--|----------------------------|------|----------------------------------|-------------------------------------|-----|--|
| Degree of Difference Between S- DSIC and O-DSIC Types | -2 -1 | | 0 | 1 | 2 | |
| n | 3 | 31 | 145 | 113 | 17 | |
| % | 1.0 | 10.0 | 46.9 | 36.6 | 5.5 | |

Legend:

- -2: O-DSIC Type III, S-DSIC Type I
- -1: O-DSIC Type III and S-DSIC Type II; or O-DSIC Type II and S-DSIC Type I
- **0:** Both O-DSIC and S-DSIC Type are the same.
- +1: O-DSIC Type I and S-DSIC Type II; or O-DSIC Type II and S-Type III
- +2: O-DSIC Type I and S-DSIC Type III

Copyright ${\hbox{$\mathbb C$}}$ The Authors. Published by The Journal of Bone and Joint Surgery, Incorporated MacLean ET al.

 $Evaluating\ Instability\ in\ Degenerative\ Lumbar\ Spondylolisthesis.\ Objective\ Variables\ Versus\ Surgeon\ Impressions\ http://dx.doi.org/10.2106/JBJS.OA.22.00052$

Page 5

Appendix E: Patient Characteristics Stratified by O-DSIC and S-DSIC Type

| Variable | | O-DSIC Type | | | | S-DSIC Type | | | |
|-----------------------|----------------------|-------------|----------|-----------|---------|-------------|----------|----------|---------|
| | | I | II | III | P-Value | I | II | III | P-Value |
| Age (mean ± SD) | | 66.6±9.2 66 | 66.0±7.5 | 60.0±11.3 | 0.002 | 68.0±8.2 | 65.6±9.1 | 63.0±9.4 | 0.005 |
| BMI | | 28.1±5.1 | 30.8±6.7 | 31.4±6.8 | <0.001 | 29.1±4.4 | 28.9±5.7 | 31.0±8.5 | 0.069 |
| Gender | Male | 72 | 44 | 10 | 0.91 | 40 | 72 | 14 | 0.065 |
| | Female | 104 | 62 | 17 | 0.91 | 52 | 92 | 39 | |
| Marital | Married | 115 | 77 | 18 | | 65 | 109 | 36 | 0.86 |
| Status | Not Married | 55 | 29 | 9 | 0.65 | 26 | 51 | 16 | |
| Living Arrangement | Living w/ Someone | 130 | 86 | 19 | 0.37 | 72 | 122 | 41 | 0.90 |
| | Living alone | 43 | 20 | 8 | | 20 | 39 | 12 | |
| Education | ≤HS | 76 | 51 | 13 | 0.79 | 41 | 76 | 23 | 0.83 |
| | >HS | 96 | 55 | 14 | | 51 | 84 | 30 | |
| Smoking | Smoker | 30 | 13 | 5 | 0.46 | 14 | 22 | 12 | 0.30 |
| Status | Non-smoker | 142 | 93 | 21 | | 77 | 138 | 41 | |
| Employment | Not working | 22 | 11 | 6 | 0.30 | 9 | 22 | 8 | 0.75 |
| Status | Working | 43 | 27 | 10 | | 22 | 47 | 11 | |
| | Retiree | 96 | 59 | 8 | | 52 | 82 | 29 | |
| | Other | 12 | 9 | 2 | - | 8 | 10 | 5 | - |