

## Low Back Pain Rating Scale of Manniche et al.

Overview:

Manniche et al developed rating scale to evaluate patients with low back pain. The scale covers the 4 manifest components of back pain and was designed for monitoring outcome following therapeutic interventions. The authors are from several hospitals in Denmark.

Measures in rating scale:

- (1) back and leg pain (60 points)
- (2) disability index (30 points)
- (3) physical impairment (40 points)

### Back and Leg Pain

Visual analogue scales (VAS) ranging from 0 (no pain) to 10 (worst imaginable pain):

- (1) back pain at the time of the examination
- (2) leg pain at the time of the examination
- (3) the worst back pain within the last 2 weeks
- (4) the worst leg pain within the last 2 weeks
- (5) average level of back pain during the last 2 weeks
- (6) average level of leg pain during the past 2 weeks

pain index =

= SUM(points for all 6 visual analogue scales)

### Disability Index

Questions (Table 1 page 319)

- (1) Can you sleep at night without low back pain interfering?
- (2) Can you do your daily work without low back pain reducing your activities?
- (3) Can you do the easy chores at home such as watering flowers or cleaning the table?
- (4) Can you put on shoes and stockings by yourself?
- (5) Can you carry two full shopping bags (10 kilograms total)?
- (6) Can you get up from a low armchair without difficulty?
- (7) Can you bend over the wash basin to brush your teeth?
- (8) Can you climb stairs from one floor to another without resting because of low back pain?

- (9) Can you walk 400 meters without resting because of low back pain?
- (10) Can you run 100 meters without resting because of low back pain?
- (11) Can you ride a bike or drive a car without feeling any low back pain?
- (12) Does low back pain influence your emotional relationship to your nearest family?
- (13) Did you have to give up contact with other people within the last 2 weeks because of low back pain?
- (14) If it was a present interest do you think that there are certain jobs which you would not be able to manage because of your back trouble?
- (15) Do you think that the low back pain will influence your future?

| Responses        | Points | Forward | Reverse |
|------------------|--------|---------|---------|
| not a problem    | 0      | yes     | no      |
| can be a problem | 1      | can be  | can be  |
| is a problem     | 2      | no      | yes     |

Forward questions: 1 2 3 4 5 6 7 8 9 10 11

Reverse questions: 12 13 14 15

NOTE: In the paper scoring is given as yes = 0; can be problem = 1; no = 2. However these responses for the last 4 questions reverse the general trend of the first 11 questions. It makes more sense to me to reverse the scoring for the last 4 questions.

disability index = SUM(points for all 15 questions)

### Physical Impairment

Measures:

- (1) endurance of back muscles: length of time that the patient can lie horizontal above the floor with the legs strapped to a bench and the trunk unsupported from the level of the iliac crest
- (2) back mobility: modified Schober's test (see Calin 1998 (a) draw a line between the posterior iliac spines then (b) identify a point 10 cm above the midpoint of the line then (c) with the person bending forward measure the distance from that point to the midpoint of the line connecting the posterior iliac spines and (d) determine the distraction = increase in measurement while bending forward.
- (3) overall mobility: fastest time taken to go from (a) lying supine on a flat couch 80 cm above the floor to (b) standing beside the couch then (c) walking to the end of the couch where (d) a deep knee bend is done and then (e) return to the starting position.
- (4) use of analgesics: based on the frequency of use for non-narcotic and narcotic analgesics

| <b>Measure</b>                          | <b>Finding</b>   | <b>Points</b> |
|---|--|---------------|
| back muscle endurance                   | >= 270 seconds   | 0             |
|   | 240 – 269 seconds                                      | 1             |
|   | 210 – 239 seconds                                      | 2             |
|   | 180 – 209 seconds                                      | 3             |
|   | 150 – 179 seconds                                      | 4             |
|   | 120 – 149 seconds                                      | 5             |
|   | 90 – 119 seconds                                       | 6             |
|   | 60 – 89 seconds  | 7             |
|   | 30 – 59 seconds  | 8             |
|   | 1 – 29 seconds   | 9             |
|   | 0 seconds  | 10            |
| back mobility (modified Schober's test) | >= 60 mm   | 0             |
|   | 50 – 59 mm   | 2             |
|   | 40 – 49 mm   | 4             |
|   | 30 – 39 mm   | 6             |
|   | 20 – 29 mm   | 8             |
|   | 0 – 19 mm  | 10            |
| overall mobility test                   | < 10 seconds   | 0             |
|   | 10 – 19 seconds  | 2             |
|   | 20 – 29 seconds  | 4             |
|   | 30 – 39 seconds  | 6             |
|   | 40 – 49 seconds  | 8             |
|   | >= 50 seconds  | 10            |
| analgesic use                           | none during past week                                  | 0             |
|   | use NSAID or non-narcotic analgesic 1-4 times a week   | 2             |
|   | use of NSAID or non-narcotic analgesic 5+ times a week | 4             |

|  |   |    |
|--|---|----|
|  | use of morphine or analogues 1-4 times a week | 8  |
|  | use of morphine or analogues 5+ times a week  | 10 |

impairment index = SUM(points for all 4 measures)

Interpretation:

- minimum score for subscores and total: 0
- maximum pain index: 60
- maximum disability index: 30
- maximum physical impairment: 40
- maximum total points: 130
- The higher the score the greater the level of disability and impairment.

Performance:

- The scale was found to be reliable based on comparisons with the Global Assessments reported by an experienced clinician and the patient.
- Inter-rater agreement is high.

References:

Calin A. Chapter 5.5.5: Ankylosing spondylitis pages 1058-1070 (page 1065). IN: Maddison PJ Isenberg DA et al (editors). Oxford Textbook of Rheumatology Second Edition. Oxford Medical Publications. 1998.

Manniche C Asmussen K et al. Low back pain rating scale: Validation of a tool for assessment of low back pain. Pain. 1994; 57: 317-326.