11-Item Motor Control Test Battery

Motor Control test description

Generally the following parameters were used to define a failed test based on that used by Luomajoki et al (2008).

It was also assumed that the participants performed the tests for the first time. This leads to the guideline that participants should not be given more than 3 trials per test. If the participants were to improve from test to test, this would be interpreted as motor learning and the test would be assessed as passed.

The test was failed if
- The subject was not able to perform the tests correctly within 3 attempts
- Lumbar spine moves excessively during performing
- Compensatory movements in other body areas
- Expected movement does not achieve full range
- Symptom provocation

The test was passed if
- The subject was able to perform the tests correctly within 3 attempts
- Lumbar spine stays stable while performing the test
- No compensatory movements in other body areas
- Expected movement with full range
- No symptom provocation

1 **FORWARD BEND**	**FB**	**STANDING**
Position: Standing		
Movement: Trunk flexion with lumbar flexion, knees extended: combining lumbar spine and hip flexion		
Judgement: No additional parameters		
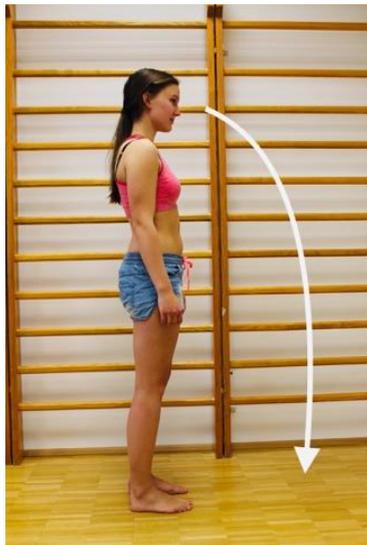
2	**RETURN FROM FORWARD BENDING**	**RFB**	**STANDING**

Position: Standing
Movement: Return from forwward bending: concomitant hip and lumbar spine extension
Judgement: No additional parameters

3	**SITTING FORWARD LEAN**	**SFL**	**SITTING**

Position: Sitting, feet supported
Movement: Lumbar spine in neutral, single hip flexion up to 120°
Judgement: Lumbopelvic movement, hip range less than 120°

| **4** | **SITTING KNEE EXTENSION** | **SKE** | **SITTING** |

Position: Sitting, feet not supported
Movement: Lumbar spine in neutral, knee extension up to -10° extension
Judgement: Lumbopelvic movement, if less than -10° extension or more than 10° side-to-side difference

| **5** | **PELVIC TILT** | **PT** | **STANDING** |

Position: Standing
Movement: Lumbar spine in neutral, active posterior pelvic tilt
Judgement: Flexion of the thoracic spine or knees

| 6 | ONE-LEG-STANCE | OLS | STANDING |

Position: Standing, foot distance aproximately 1/3 of trochanter distance
Movement: From bipedal to single leg stance
Judgement: More than 2cm in lateral movement of the belly button

| 7 | SIDE-BENDING | LAT-F | STANDING |

Position: Standing
Movement: Active side bending, hand slides down lateral femoral shaft
Judgement: More than 2cm side-to-side difference in movement (Distance of nearest fingertip sliding down the leg to the ground)

8	**ROCKING FORWARD**		**RF**	**4-POINT-KNEELING**

Position: 4-point-kneeling, hips in 90° flexion
Movement: Rocking forward, trunk movement up to 60° hip flexion
Judgement: Lumbar movement into extension

9	**PRONE KNEE FLEXION**		**PKF**	**PRONE**

Position: Prone lying
Movement: Actve knee flexion, alternating left and right
Judgement: Lumbar or pelvic movement, more than 10° side-to-side difference in knee flexion range

| 10 | **HIP ABDUCTOR/LATERAL ROT** | **BKFO** | **SUPINE** |

Position: Supine lying, both hips 120° flexed
Movement: Active abduction and adduction alternating left and right leg
Judgement: Movement of the stationary leg, pelvis or lumbar spine while the other leg
              is moving.

| 11 | **SHOULDER FLEXION RESTING L-SPINE ON WALL (SKIPPED AFTER DATA ANALYSIS)** | **SHFW** | **STANDING** |

Position: Standing, back to the wall with two points of contact on the wall (thoracic
              spine and buttocks)
Movement: Flexion of both shoulders
Judgement: Moving contact points away from the wall, more than 10° side-to-side
              difference in shoulder flexion