The Motricity Index for Motor Impairment After Stroke

Overview: The Motricity Index can be used to assess the motor impairment in a patient who has had a stroke.

Tests for Each Arm:

(1) pinch grip: using a 2.5 cm cube between the thumb and forefinger
   • 19 points are given if able to grip cube but not hold it against gravity
   • 22 points are given if able to hold cube against gravity but not against a weak pull
   • 26 points are given if able to hold the cube against a weak pull but strength is weaker than normal

(2) elbow flexion from 90° so that the arm touches the shoulder
   • 14 points are given if movement is seen with the elbow out and the arm horizontal

(3) shoulder abduction moving the flexed elbow from off the chest
   • 19 points are given when the shoulder is abducted to more than 90° beyond the horizontal against gravity but not against resistance

Tests for Each Leg:

(1) ankle dorsiflexion with foot in a plantar flexed position
   • 14 points are given if there is less than a full range of dorsiflexion

(2) knee extension with the foot unsupported and the knee at 90°
   • 14 points are given for less than 50% of full extension
   • 19 points are given for full extension yet it can be easily pushed down

(3) hip flexion with the hip bent at 90° moving the knee towards the chin
   • 14 points are given if there is less than a full range of passive motion
   • 19 points are given if the hip is fully flexed yet it can be easily pushed down
<table>
<thead>
<tr>
<th>MRC Grade</th>
<th>MRC Score</th>
<th>Points for Pinch Grip</th>
<th>Points for Other Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>no movement</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>palpable flicker but no movement</td>
<td>1</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>movement but not against gravity</td>
<td>2</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>movement against gravity</td>
<td>3</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>movement against resistance</td>
<td>4</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>normal</td>
<td>5</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

arm score for each side = SUM(points for the 3 arm tests) + 1

leg score for each side = SUM(points for the 3 leg tests) + 1

side score for each side = ((arm score for side) + (leg score for side)) / 2

Interpretation:

• minimum score: 0
• maximum score: 100

References: