

## Burke Lateropulsion Scale

**SOURCE:** D'Aquila MA, Smith T, Organ D, Lichtman S, Reding M. Validation of a lateropulsion scale for patients recovering from stroke. *Clin Rehabil.* 2004;18:102-109.

**SUPINE:** Use "log roll" technique to test patient's response. Roll first towards the affected side then towards the unaffected side. Circle the side to which the resistance is most prominent. Score below the maximum resistance felt and add one point if resistance is noted in both directions. (Patients with marked lateropulsion may resist rolling to either side; hence an extra point is added if resistance is noted with rolling both towards and away from the affected side).

- 0= No resistance to passive rolling
- 1= Mild resistance
- 2= Moderate resistance
- 3= Strong resistance
- 1= Add one point if resistance noted in both directions

**SITTING:** Score with the patient seated, feet off floor, with both hands in lap. The expected hemiplegic response is for patient to carry his weight towards the unaffected side. Some patients will passively fall towards their paretic side when placed in true vertical position by the examiner. This will not be scored as "lateropulsion." Position the patient with their trunk 30 degrees off true vertical towards their affected side, then score the patient's response to your attempts to bring them back to vertical. The "lateropulsion" phenomenon is an active attempt by the patient to keep their center of gravity towards their impaired side as they are brought to true vertical.

- 0= No resistance to passive return to true vertical sitting position.
- 1= Voluntary or reflex resistive movements in trunk, arms or legs noted only in the last 5 degrees approaching vertical.
- 2= Resistive movements noted but beginning within 5 to 10 degrees of vertical.
- 3= Resistive movements noted more than 10 degrees off vertical.

**STANDING:** Score with the patient standing with whatever support is needed. The expected hemiplegic response is for the patient to carry their weight toward the unaffected side or to passively fall towards their paretic side when placed in true vertical position by the examiner. This will not be scored as "lateropulsion." Position the patient with their trunk 15 to 20 degrees off true vertical towards their affected side then score the patient's response to your attempts to bring them back to vertical, then 5 to 10 degrees past vertical toward the intact side. The "lateropulsion" phenomenon is a voluntary or reflexive response in the trunk or limbs to keep the center of gravity towards the impaired side, e.g., forced trunk curvature towards the paretic side, flexion of the affected hip or knee, shifting weight to the lateral aspect of the unaffected foot.

- 0= Patient prefers to place his center of gravity over the unaffected leg.
- 1= Resistance is noted when attempting to bring the patient 5 to 10 degrees past midline.
- 2= Resistive voluntary or reflex equilibrium responses noted, but only within 5 degrees of approaching vertical.
- 3= Resistive reflex equilibrium responses noted, beginning 5 to 10 degrees off vertical.
- 4= Resistive voluntary or reflex equilibrium responses noted, >10 degrees off vertical

**TRANSFERS:** Score this one by transferring the patient first to the unaffected side, then if possible, to the affected side. The expected hemiplegic response would be for the patient to require more assistance to transfer towards the affected side (use a sit-pivot, modified stand pivot, or stand pivot transfer, depending on the patient's functional level).

- 0= No resistance to transferring to the unaffected side is noted.
- 1= Mild resistance to transferring to the unaffected side.
- 2= Moderate resistance to transferring is noted. Only one person is required to perform the transfer.
- 3= Significant resistance is noted with transferring to the affected side. Two or more people are required to transfer the patient due to the severity of pushing.

**WALKING:** Score lateropulsion by noting active resistance by the patient to efforts by the therapist to support the patient in true vertical position. Do not score passive falling or leaning to the paretic side. Score lateropulsion as follows:

- 0= No lateropulsion noted.
- 1= Mild lateropulsion noted.
- 2= Moderate lateropulsion noted with walking,
- 3= Strong lateropulsion noted, takes two individuals to walk with the patient, or unable to walk because of severity of lateropulsion.

Circle most prominent direction of lateropulsion: left, right, posterior-left, posterior-right.

**Note: Some patients may show such marked lateropulsion that they cannot be assessed while standing or walking. In such cases, they are scored as having a maximum deficit for those tasks not testable due to the severity of their lateropulsion.**

**TOTAL SCORE = SUM OF THE ABOVE \_\_\_\_ (Max = 17)**



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