



International Parkinson and
Movement Disorder Society

TWSTRS-2 & TWSTRS-PSYCH

Revised Toronto Western Spasmodic Torticollis Rating Scale and Psychiatric Screening Tool

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Toronto Western Spasmodic Torticollis Rating Scale (REVISED) TWSTRS-2

Patient or ID: _____
 DOB: _____
 Examiner: _____
 Date examined: _____
 Video rater: _____
 Date rated: _____

Rate maximal excursion for items 1 - 6

The first section of the Severity scale is *maximal* excursion. This section has rating items for the amplitude of excursion with patients allowing their head and neck to assume the spontaneous abnormal posture, without opposing the movement, during the maneuvers indicated by the videotape examination protocol. The angle of movement is determined for each axis of head movement, shifting of the neck on the shoulders in a forward or backward direction, and shoulder movement. In scoring each item, it is important to score only for that particular posture. For example, the score for rotation would only include the degree of horizontal deviation separate from the other components of movement observed.

For each item, full range is considered the range that a normal person without dystonia can achieve at maximal effort in a particular direction.

If a rating lies between scores, the greater score is marked. Fractional or decimal scores are not allowed.

I. TWSTRS-2 SEVERITY SCALE

1. Rotation (horizontal turn: right or left). Rotation is defined as the movement of the head along the horizontal axis. The movement of the chin from the midline to right or left is best seen in frontal view. In mid-position, the chin is positioned directly over the sternum, midway between the attachments of the clavicles. Rotation is scored by the greatest degree of deflection from mid-position.	
Absent	0
Slight (less than 25% full range; 1 - 22 degrees off midline)	1
Mild (25 to less than 50% of full range; 23 - 45 degrees off midline)	2
Moderate (50 to less 75% of full range; 46 - 67 degrees off midline)	3
Severe (75% or greater of full range; 68 - 90 degrees off midline)	4

2. Laterocollis (tilt right or left, exclude shoulder elevation). Laterocollis refers to the angle of tilting of the head to the right or left but excludes shoulder elevation. As in Rotation, the maximum deviation in a lateral direction is the score to be recorded. A technique for determining head tilt or laterocollis is to draw a line between the eyes or the ears and compare this line to the horizontal plane.	
Absent	0
Slight (less than 25% full range; 1 - 22 degrees off midline)	1
Mild (25 to less than 50% of full range; 23 - 45 degrees off midline)	2
Moderate (50 to less 75% of full range; 46 - 67 degrees off midline)	3
Severe (75% or greater of full range; 68 - 90 degrees off midline)	4

3. Shoulder elevation/anterior displacement. This category includes an assessment of the severity of shoulder movement, as well as a duration factor for the shoulder. Shoulder elevation is best evaluated from a frontal or posterior view. Anterior or posterior displacement of the shoulder is best viewed from a lateral or profile view.	
Absent	0
Slight (< 25% full range) intermittent or constant	1
Mild (25% to less than 50% of full range) intermittent or constant	2
Moderate (50% to less than 75% of full range) intermittent or constant	3
Severe (75% or greater of full range) intermittent or constant	4

4. Duration of cervical dystonia during examination. Duration of cervical dystonia is determined during the course of the entire examination and is an assessment of head movement in any direction. It consists of two components: (a) the percentage of time during the entire examination that head deviation is present AND (b) the relative intensity of the head deviation during the examination (e.g. when present during the session, the head deviation was most often submaximally or maximally present). Note that the duration of shoulder movement is not considered in this category, but is rated below in another section.

Absent	0
Occasional deviation (less than 25% of the time), either maximal or submaximal	1
Intermittent deviation (25 - 50% of the time) either maximal or submaximal OR Frequent deviation (50 - 75% of the time), most often submaximal	2
Frequent deviation (50 - 75% of the time), most often maximal OR Constant deviation (greater than 75% of the time), most often submaximal	3
Constant deviation (greater than 75% of the time), most often maximal	4

5. Range of Motion of head and neck. The range of motion category assesses the ability to move from the abnormal posture through the midline to the extreme opposite position without the aid of sensory tricks. Range of motion is assessed for each of the three axes of head movement: horizontal rotation, flexion/extension, and lateral tilting. The score for the most severely limited direction of movement is the final range of motion score.

Able to move to extreme opposite position	0
Able to move head well past midline but not to extreme opposite position	1
Able to move head barely past midline	2
Able to move head toward but not past midline	3
Barely able to move head beyond abnormal posture	4

6. Time holding head in midline. This item assesses the ability of the patient to hold the head within 10 degrees of the midline, normal head position. Obtaining midline position may be done by verbal direction. Obtaining the midline marks the beginning of the time measure. The ability to remain in midline is obtained twice and the mean duration up to 60 seconds for each attempt is averaged to obtain the score. If the patient cannot reach midline, the score is 4.

> 60 seconds	0
46 - 60 seconds	1
31 - 45 seconds	2
6 - 30 seconds	3
< 15 seconds	4

Total TWSTRS-2 Severity Score

Total score is the sum of 1 - 6 (maximum score is 24)

II. TWSTRS-2 DISABILITY SCALE

1. Work (occupation or housework/home management).

No difficulty	0
Normal work expectations with satisfactory performance at usual level of occupation but some interference by torticollis	1
Most activities unlimited, selected activities very difficult and hampered but still possible with satisfactory performance	2
Working at lower than usual occupational level; most activities hampered, all possible but less than satisfactory performance in some activities.	3
Unable to engage in voluntary or gainful employment; still able to perform some domestic responsibilities satisfactorily	4
Marginal or no ability to perform domestic responsibilities	5

2. Activities of daily living (e.g., Feeding, Dressing, Hygiene (including washing, shaving, makeup, etc.))	
No difficulty with any activity	0
Activities unlimited, but some interference by torticollis	1
Most activities unlimited, selected activities very difficult and hampered but still possible using simple tricks	2
Most activities hampered or laborious but still possible; may use extreme "tricks"	3
All activities impaired; some impossible or require assistance	4
Dependent on others in most self-care tasks	5

3. Driving	
No difficulty (or has never driven a car)	0
Unlimited ability to drive but bothered by torticollis	1
Unlimited ability to drive but requires "tricks" (including touching or holding face; holding head against headrest) to control torticollis	2
Can drive only short distances	3
Usually cannot drive because of torticollis	4
Unable to drive and cannot ride in a car for long stretches as passenger because of torticollis	5

4. Reading	
No difficulty	0
Unlimited ability to read in normal seated position but bothered by torticollis	1
Unlimited ability to read in normal seated position but requires use of "tricks" to control torticollis	2
Unlimited ability to read but requires extensive measures to control torticollis or only able to read in non-seated position (e.g., lying down)	3
Limited ability to read because of torticollis despite tricks	4
Unable to read more than a few sentences because of torticollis	5

5. Watching television	
No difficulty	0
Unlimited ability to watch TV in normal seated position but bothered by torticollis	1
Unlimited ability to watch TV in normal seated position but requires use of "tricks" to control torticollis	2
Unlimited ability to watch TV but requires extensive measures to control torticollis or only to view in non-seated position (e.g., lying down)	3
Limited ability to watch TV because of torticollis	4
Unable to watch TV for more than a few minutes because of torticollis	5

6. Activities outside the home (e.g., shopping, walking about, movies, dining or other recreational activities)	
No difficulty	0
Unlimited activities but bothered by torticollis	1
Unlimited activities but requires use of "tricks" to accomplish	2
Only accomplishes activities when accompanied by others because of torticollis	3
Limited activities outside the home; certain activities impossible or given up due to torticollis	4
Rarely if ever engages in activities outside the home	5

Total Disability Score	
Total score is the sum of 1 - 6 (maximum score is 30)	

III. TWSTRS-2 PAIN SCALE

1. Rate the severity of next pain during the last week on a scale of 0 - 10, where a score of 1 represents a minimal ache and 10 represents the most excruciating pain imaginable	
Best (0 to 10)	
Worst (0 to 10)	
Usual (0 to 10)	

2. Rate the duration of neck pain	
None	0
Present < 10% of the time	1
Present 10% to < 25% of the time	2
Present 25% to < 50% of the time	3
Present 50% to < 75% of the time	4
Present \geq 75% of the time	5

3. Rate the degree to which pain contributes to disability	
No limitation or interference from pain	0
Pain is quite bothersome but not a source of disability	1
Pain definitely interferes with some tasks but is not a major contributor to disability	2
Pain accounts for some (less than half) but not all disability	3
Pain is a major source of difficulty with activities; separate from this, head pulling is also a source of some (less than half) disability	4
Pain is the major source of disability; without it, most impaired activities could be performed quite satisfactorily despite the head pulling	5

Total Pain Score	
Total score is the sum of 1 - 3 (maximum score is 40)	

TOTAL TWSTRS-2 SCORE	
Sum of Severity, Disability and Pain (maximum score is 94)	

IV. TWSTRS-PSYCH

1. In the past month has there been a period of time when you were feeling depressed or down?	
Absent	0
Mild: Occasional sadness in keeping with circumstances	1
Moderate: Sad or low but brightens up without difficulty	2
Marked: Pervasive feelings of sadness or gloominess. The mood is still influenced by external circumstances.	3
Severe: Continuous or unvarying sadness, misery or despondency	4

2. In the last month have you lost interest or pleasure in things you usually enjoyed? (mark according to subjective experience of interest as opposed to actual ability to perform an action)	
Absent: Normal interest in surroundings and in other people	0
Mild: Reduced ability to enjoy usual interests, activities, hobbies, people, or work but no reduction in initiation of activities	1
Moderate: Moderate loss of interest in activities, hobbies, people or work such that it is difficult to initiate activities	2
Marked: Marked loss of interest in surroundings and loss of interest in being with friends and acquaintances with marked reduction in initiation of activities	3
Severe: Continuous and virtually unremitting loss of interest in all activities, including social activities even with the closest friends and relatives: inability to initiate activities	4

3. Over the past month has there been anything that you have been afraid to do or felt uncomfortable doing in front of other people, like speaking, eating or writing?	
Absent	0
Mild: Anxious in some social settings but continues to participate	1
Moderate: Anxious in most social settings plus avoidance of some activities involving large groups or being the center of attention (e.g., raising a toast, asking questions in a forum, etc.)	2
Marked: Pronounced anxiety in most social settings plus avoidance of most activities except for 1 or 2 activities	3
Severe: Pronounced anxiety plus avoidance of all social settings except in company of closest family/caregivers	4

4. In the past month have you been particularly nervous or anxious?	
Absent	0
Mild: Worries a little more than necessary about minor matters, but with only mild distress	1
Moderate: Intrusive anxious thoughts out of proportion to patient's situation, but able to dispel or dismiss them	2
Marked: Continuous worry fluctuating in intensity, distressing thoughts may cease for an hour or two, especially if distracted by an activity requiring attention	3
Severe: Virtually unrelenting dread or anxiety	4

5. In the past month have you had a panic attack, when you suddenly felt frightened or suddenly developed a lot of physical symptoms? Common physical symptoms are: palpitations, sweating, trembling or shaking, SOB or smothering, chest pain, nausea, dizzy/faint, paresthesias, chills or hot flushes.	
Absent	0
Mild: Rare episodes (less than monthly) of panic precipitated by specific triggers	1
Moderate: At least 2 panic attacks in the past month plus some anticipatory anxiety or recurrence without any avoidance	2
Marked: At least weekly panic attacks plus marked anticipatory anxiety (fear of recurrence) plus some avoidance behavior	3
Severe: Panic attacks almost daily plus pronounced worry of recurrence plus significant avoidance	4

6. In the past month have you been afraid of going out of the house alone, being in crowds, standing in a line, or traveling on buses or trains?	
Absent	0
Mild: Some discomfort in a few specific settings (e.g., lecture, buses, public transport)	1
Moderate: Avoids some settings	2
Marked: Avoids most settings	3
Severe: Very rarely, if ever, leaves home alone	4

Total Psych Score	
Total score is the sum of 1 - 6 (maximum score is 24)	