

# Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS)

## I. Torticollis Severity Scale

### A. Maximal Excursion

#### 1. Rotation (*turn: right or left*)

0 = None [0°]

1 = Slight [ $< 1/4$  range, 1°–22°]

2 = Mild [ $1/4 - 1/2$  range, 23°–45°]

3 = Moderate [ $1/2 - 3/4$  range, 46°–67°]

4 = Severe [ $>3/4$  range, 68°–90°]

#### 2. Laterocollis (*tilt: right or left, exclude shoulder elevation*)

0 = None [0°]

1 = Mild [1°–15°]

2 = Moderate [16°–35°]

3 = Severe [ $> 35^\circ$ ]

#### 3. Anterocollis/Retrocollis (*a or b*)

##### a. Anterocollis

0 = None

1 = Mild downward deviation of chin

2 = Moderate downward deviation (approximates  $\frac{1}{2}$  possible range)

3 = Severe (chin approximates chest)

##### b. Retrocollis

0 = None

1 = Mild backward deviation of vertex with upward deviation of chin

2 = Moderate backward deviation (approximates  $\frac{1}{2}$  possible range)

3 = Severe (approximates full range)

#### 4. Lateral shift (*right or left*)

0 = Absent

1 = Present

#### 5. Sagittal shift (*forward or backward*)

0 = Absent

1 = Present

### B. Duration Factor (*Weighted x 2*)

0 = None

1 = Occasional deviation ( $< 25\%$  of the time, most often submaximal)

2 = Occasional deviation ( $< 25\%$  of the time, often maximal) **or** Intermittent deviation (25%–50% of the time, most often submaximal)

3 = Intermittent deviation (25%–50% of the time, often maximal) **or** Frequent deviation (50%–75% of the time, most often submaximal)

4 = Frequent deviation (50%–75% of the time, often maximal) **or** Constant deviation ( $>75\%$  of the time, most often submaximal)

5 = Constant deviation ( $>75\%$  of the time, often maximal)

### **C. Effect of Sensory Tricks**

- 0 = Complete relief by one or more tricks
- 1 = Partial or only limited relief by tricks
- 2 = Little or no benefit from tricks

### **D. Shoulder Elevation/Anterior Displacement**

- 0 = Absent
- 1 = Mild (< 1/3 possible range, intermittent or constant)
- 2 = Moderate (1/3 – 2/3 possible range and constant, > 75% of the time) or Severe (> 2/3 possible range and intermittent)
- 3 = Severe and constant

### **E. Range of Motion (*without aid of sensory tricks*)**

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

### **F. Time (*up to 60 seconds*) for which patient is able to maintain head within 10° of neutral position without using sensory tricks (mean of two attempts)**

- 0 = > 60 seconds
- 1 = 46–60 seconds
- 2 = 31–45 seconds
- 3 = 16–30 seconds
- 4 = < 15 seconds

## **II. Disability Scale** (maximum = 20)

### **A. Work** (*occupation or housework/home management*)

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

### **B. Activities of Daily Living** (*e.g., feeding, dressing, or hygiene, including washing, shaving, makeup, etc.*)

- 0 = No difficulty with any activity
- 1 = Activities unlimited but some interference by torticollis
- 2 = Most activities unlimited, selected activities very difficult and hampered but still possible using simple tricks
- 3 = Most activities hampered or laborious but still possible; may use extreme tricks
- 4 = All activities impaired; some impossible or require assistance
- 5 = Dependent on others in most self-care tasks

### **C. Driving**

0 = No difficulty (or has never driven a car)

1 = Unlimited ability to drive but bothered by torticollis

2 = Unlimited ability to drive but requires tricks (including touching or holding face, holding head against head rest) to control torticollis

3 = Can drive only short distances

4 = Usually cannot drive because of torticollis

5 = Unable to drive and cannot ride in a car for long stretches as a passenger because of torticollis

### **D. Reading**

0 = No difficulty

1 = Unlimited ability to read in normal seated position but bothered by torticollis

2 = Unlimited ability to read in normal seated position but requires use of tricks to control torticollis

3 = Unlimited ability to read but requires extensive measures to control torticollis **or** is able to read only in nonseated position (e.g., lying down)

4 = Limited ability to read because of torticollis despite tricks

5 = Unable to read more than a few sentences because of torticollis

### **E. Television**

0 = No difficulty

1 = Unlimited ability to watch television in normal seated position but bothered by torticollis

2 = Unlimited ability to watch television in normal seated position but requires use of tricks to control torticollis

3 = Unlimited ability to watch television but requires extensive measures to control torticollis **or** is able to view only in nonseated position (e.g., lying down)

4 = Limited ability to watch television because of torticollis

5 = Unable to watch television more than a few minutes because of torticollis

### **F. Activities Outside the Home** (e.g., shopping, walking about, movies, dining, and other recreational activities)

0 = No difficulty

1 = Unlimited activities but bothered by torticollis

2 = Unlimited activities but requires simple tricks to accomplish

3 = Accomplishes activities only when accompanied by others because of torticollis

4 = Limited activities outside the home; certain activities impossible or given up because of torticollis

5 = Rarely if ever engages in activities outside the home

### III. Pain Scale (maximum = 20)

**A. Severity of Pain** Rate the severity of neck pain due to st during the last week on a scale of 0–10 where a score of 0 represents no pain and 10 represents the most excruciating pain imaginable. Score calculated as:  $(\text{worst} + \text{best} + (2 \times \text{usual}))/4$

Best \_\_\_\_\_

Worst \_\_\_\_\_

Usual \_\_\_\_\_

#### **B. Duration of Pain**

0 = None

1 = Present < 10% of the time

2 = Present 10%–25% of the time

3 = Present 26%–50% of the time

4 = Present 51%–75% of the time

5 = Present > 76% of the time

#### **C. Disability Due to Pain**

0 = No limitation or interference from pain

1 = Pain is quite bothersome but not a source of disability

2 = Pain definitely interferes with some tasks but is not a major contributor to disability

3 = Pain accounts for some (less than half) but not all of disability

4 = Pain is a major source of difficulty with activities; separate from this, head pulling is also a source of some (less than half) disability

5 = Pain is the major source of disability; without it most impaired activities could be performed quite satisfactorily despite the head pulling