

# TRG ESSENTIAL TREMOR RATING ASSESSMENT SCALE (TETRAS<sup>®</sup>) V 3.3

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## Activities of Daily Living Subscale

Rate tremor's impact on activities of daily living (0 - 4 scoring).

### 1. Speaking

0 = Normal

1 = Slight voice tremulousness, only when "nervous".

2 = Mild voice tremor. All words easily understood.

3 = Moderate voice tremor. Some words difficult to understand.

4 = Severe voice tremor. Most words difficult to understand.

### 2. Feeding with a spoon

0 = Normal

1 = Slightly abnormal. Tremor is present but does not interfere with feeding with a spoon.

2 = Mildly abnormal. Spills a little.

3 = Moderately abnormal. Spills a lot or changes strategy to complete task, such as using two hands or leaning over.

4 = Severely abnormal. Cannot feed with a spoon.

### 3. Drinking from a glass

0 = Normal

1 = Slightly abnormal. Tremor is present but does not interfere with drinking from a glass.

2 = Mildly abnormal. Spills a little.

3 = Moderately abnormal. Spills a lot or changes strategy to complete task such as using two hands or leaning over.

4 = Severely abnormal. Cannot drink from a glass or uses straw or sippy cup.

### 4. Hygiene

0 = Normal

1 = Slightly abnormal. Tremor is present but does not interfere with hygiene.

2 = Mildly abnormal. Some difficulty but can complete task.

3 = Moderately abnormal. Unable to do most fine tasks such as putting on lipstick or shaving unless changes strategy, such as using two hands or using the less affected hand.

4 = Severely abnormal. Cannot complete hygiene activities independently.

### 5. Dressing

0 = Normal

1 = Slightly abnormal. Tremor is present but does not interfere with dressing.

2 = Mildly abnormal. Able to do everything but has difficulty due to tremor.

3 = Moderately abnormal. Unable to dress without using strategies such as using Velcro, buttoning shirt before putting it on, and using shoes with laces.

4 = Severely abnormal. Cannot dress independently.

## **6. Pouring**

0 = Normal

1 = Slightly abnormal. Tremor is present but does not interfere with pouring.

2 = Mildly abnormal. Must be very careful to avoid spilling but may spill occasionally.

3 = Moderately abnormal. Must use two hands or uses other strategies to avoid spilling.

4 = Severely abnormal. Cannot pour.

## **7. Carrying food trays, plates or similar items**

0 = Normal

1 = Slightly abnormal. Tremor is present but does not interfere with carrying food trays, plates or similar items.

2 = Mildly abnormal. Must be very careful to avoid spilling items on food tray.

3 = Moderately abnormal. Uses strategies such as holding tightly against body to carry.

4 = Severely abnormal. Cannot carry food trays or similar items.

## **8. Using Keys**

0 = Normal

1 = Slightly abnormal. Tremor is present but can insert key with one hand without difficulty.

2 = Mildly abnormal. Commonly misses target but still routinely puts key in lock with one hand.

3 = Moderately abnormal. Needs to use two hands or other strategies to put key in lock.

4 = Severely abnormal. Cannot put key in lock.

## **9. Writing**

0 = Normal

1 = Slightly abnormal. Tremor present but does not interfere with writing.

2 = Mildly abnormal. Difficulty writing due to the tremor

3 = Moderately abnormal. Cannot write without using strategies such as holding the writing hand with the other hand, holding pen differently or using large pen.

4 = Severely abnormal. Cannot write.

## **10. Working. If patient is retired, ask as if they were still working. If the patient never worked outside the house, ask the question as it relates to housework:**

0 = Normal

1 = Slightly abnormal. Tremor is present but does not affect performance at work or at home.

2 = Mildly abnormal. Tremor interferes with work; able to do everything, but with errors.

3 = Moderately abnormal. Unable to continue working without using strategies such as changing jobs or using special equipment.

4 = Severely abnormal. Cannot perform any job or household work.

**11. Overall disability with the most affected task (Name task, e.g. using computer mouse, writing, etc)**

**Task** \_\_\_\_\_

0 = Normal

1 = Slightly abnormal. Tremor present but does not affect task.

2 = Mildly abnormal. Tremor interferes with task, but patient is still able to perform task.

3 = Moderately abnormal. Can do task but must use strategies.

4 = Severely abnormal. Cannot do the task.

**12. Social Impact**

0 = None

1 = Aware of tremor, but it does not affect lifestyle or professional life.

2 = Feels embarrassed by tremor in some social situations or professional meetings.

3 = Avoids participating in some social situations or professional meetings because of tremor.

4 = Avoids participating in most social situations or professional meetings because of tremor.

## Performance Subscale

### Instructions

Scoring is 0 – 4. For most items, the scores are defined only by whole numbers, but 0.5 increments may be used if you believe the rating is between two whole number ratings and cannot be reconciled to a whole number. Each 0.5 increment in rating is specifically defined for the assessment of upper limb postural and kinetic tremor and the dot approximation task (items 4 and 8). Most items of the examination are performed with the patient seated comfortably. For each item, score the highest peak-to-peak amplitude seen at any point during the exam. Instruct patients not to attempt to suppress the tremor, but to let it come out.

1. Head tremor: The head is rotated fully left and then right for 5s each and is then observed for 10s in mid position. Patient then is instructed to gaze fully to the left and then to the right for 5s each with the head in mid position. The nose or chin should be used as the landmark to rate the largest amplitude excursions during the examination.

0 = no tremor  
1 = slight tremor (< 0.5 cm)  
2 = mild tremor (0.5- < 2.5 cm)  
3 = moderate tremor (2.5-5 cm)  
4 = severe or disfiguring tremor (> 5 cm)

2. Face (including jaw) tremor: Smile, close eyes, open mouth, purse lips. Each of these should be for 5 seconds. The highest amplitude of the most involved facial anatomy is scored, regardless of whether it occurs during rest or activation. Repetitive blinking or eye fluttering should not be considered as part of facial tremor.

0 = no tremor  
1 = slight; barely perceptible tremor  
2 = mild: noticeable tremor  
3 = moderate: obvious tremor, present in most voluntary facial contractions  
4 = severe: gross disfiguring tremor

3. Voice tremor: First ask subject to produce an extended “aaah” sound and eee” sound for at least 5 seconds each. Then assess speech during normal conversation by asking patients “How do you spend your average day?”.

0 = no tremor  
1 = slight: tremor during aaah or eee, but no tremor during speech  
2 = mild: tremor in “aaah” and “eee” and minimal tremor in speech  
3 = moderate: obvious tremor in speech that is fully intelligible  
4 = severe: some words difficult to understand

4. Upper limb tremor: Tremor is assessed during three maneuvers: forward horizontal posture, lateral “wing beating” posture, and finger-nose-finger testing. Each upper limb maneuver is done individually, right then left. The forward horizontal posture is held for 10 seconds. The

lateral wing beating posture is held for 20 seconds. The finger-nose-finger movement is executed four times. Amplitude assessment should be based on the maximum displacement of any part of the hand. For example, the amplitude of a pure supination-pronation tremor, pivoting around the wrist would be assessed at either the thumb or fifth digit.

- a. Forward outstretched postural tremor: The upper limb is extended directly forward and parallel to the ground. The wrist should be straight, and the fingers extended and abducted about 1 cm apart so that they do not touch each other but are not maximally spread. This posture is held for 10 seconds, one limb at a time.
- b. Lateral “wing beating” postural tremor: The arm is extended laterally, parallel to the ground, the elbow is flexed, and the wrist and fingers are extended straight so that the fingertip of the extended middle finger is positioned in front of the chin. The fingers are abducted about 1 cm (not maximally abducted) so that they do not touch each other. This posture should be held for 20 seconds, one limb at a time.
- c. Kinetic tremor: Subjects extend only their index finger. They then touch a set object or the examiner’s finger located to the full extent of their reach, at the level of the patient’s chin and slightly lateral to the midline. Subjects then touch their own chin and repeat this back and forth 4 times fluidly. Patients should be instructed to touch the tip of their chin and the examiner’s finger tip as precisely as possible with the arm maximally extended, and slowly enough to easily assess for tremor and to prevent a compensatory camouflage of the tremor. Rapid careless movements should be discouraged. Only the greatest tremor amplitude during the finger-nose-finger movement is assessed. This will typically occur at the chin or at the point of full limb extension (target finger).

For all three hand tremor ratings

- 0 = no tremor
- 1 = tremor is barely visible (< 0.5 cm)
- 1.5 = tremor is visible, but less than 1 cm
- 2 = tremor is 1- < 3 cm amplitude
- 2.5 = tremor is 3- < 5 cm amplitude
- 3 = tremor is 5- < 10 cm amplitude
- 3.5 = tremor is 10- < 20 cm amplitude
- 4 = tremor is  $\geq$  20 cm amplitude

5. Lower limb tremor: Raise each lower limb horizontally and parallel to the ground for 10 seconds with the foot plantar flexed. Each lower limb is assessed individually. Tremor may emerge from any part of the limb, but tremulous displacement of the foot should be scored as follows:

- 0 = no tremor
- 1 = slight: barely perceptible (< 0.5 cm)
- 2 = mild, less than 1 cm at any point
- 3 = moderate tremor, less than 5 cm at any point
- 4 = severe tremor,  $\geq$  5 cm

6. Archimedes spirals: Demonstrate how to draw Archimedes spiral that approximately fills  $\frac{1}{4}$  of an unlined page of standard (letter) paper. The lines of the spiral should be approximately 1.3 cm (0.5 inch) apart. Then ask the subject to copy the spiral. Use a ballpoint pen. The pen can

be held near the bottom of the pen but such that no part of the hand/limb touches the paper or table. Secure the paper on the table in a location that is suitable for the patient's style of drawing. Score the tremor of the written spiral, not the movement of the limb.

- 0 = normal
- 1 = slight: tremor barely visible.
- 2 = mild: obvious tremor
- 3 = moderate: portions of figure not recognizable.
- 4 = severe: figure not recognizable

7. Handwriting: Have patient write the standard sentence "This is a sample of my best handwriting" using the dominant hand only. Patients must write cursively (i.e., no printing). They cannot hold or stabilize their writing hand with the other hand. Use a ballpoint pen. Secure the paper on the table in a location that is suitable for the patient's style of writing. Score the tremor in the writing sample, not the movement of the limb.

- 0 = normal
- 1 = slight: untidy due to tremor that is barely visible.
- 2 = mild: legible, but with considerable tremor.
- 3 = moderate: some words illegible.
- 4 = severe: completely illegible

8. Dot approximation task: The examiner makes an X on a piece of paper and instructs the subject to position the tip of the pen "as close as possible to the center of the X without touching it for 10 seconds", (ideally < 1 cm). They should hold the pen in the middle of the pen so the fulcrum length is consistent. They may not brace their arm/hand in any way. The elbow should not touch their torso. You rate the maximal displacement of the tip of the pen. Each hand is scored separately.

- 0 = no tremor
- 1 = tremor is barely visible (< 0.5 cm)
- 1.5 = tremor is visible, but less than 1 cm
- 2 = tremor is 1- < 3 cm amplitude
- 2.5 = tremor is 3- < 5 cm amplitude
- 3 = tremor is 5- < 10 cm amplitude
- 3.5 = tremor is 10- < 20 cm amplitude
- 4 = tremor is  $\geq$  20 cm amplitude

9. Standing tremor: Subjects are standing, unaided if possible. The knees are 10-20 cm apart and are flexed 10-20°. The arms are down at the subject's side. Tremor is assessed at any point on the legs or trunk.

- 0 = no tremor
- 1 = barely perceptible tremor
- 2 = obvious but mild tremor, does not cause instability
- 3 = moderate tremor, impairs stability of stance
- 4 = severe tremor, unable to stand without assistance