

Columbia University Performance-Based Function Test for Essential Tremor

Overview: Louis et al developed a test of functional impairment in essential tremor based on performance of specific tasks. This is a rapidly performed test that can help in initial evaluation and to monitor the patient over time. The authors are from Columbia University and the New York State Psychiatric Institute.

Instructions: The patient should be seated in a chair and use his/her dominant arm for all tasks except 4 and 5.

Material for set-up:

- (1) table and chair.
- (2) 2 glasses
- (3) milk carton and cravat of water
- (4) soup spoon and bowl
- (5) tray with 2 glasses
- (6) pen and paper
- (7) bills and wallet
- (8) 3 keys of 3 different sizes and 3 locks
- (9) 5 coins of different sizes and a metal box with vertical opening
- (10) 1 electric plug and electrical socket
- (11) Touch-Tone telephone
- (12) 2 flat-head screwdrivers of different lengths screws and a metal board
- (13) needle and thread
- (14) strip of 8 buttons on a shirt

Tasks:

- (1) Pour liquid from a milk carton into a glass. The glass should be resting on a table in front of the subject. The glass should be filled to the 95% mark.
- (2) Drink from a glass of water that is filled to the 95% mark.
- (3) Use a soup spoon to drink liquid from a bowl. The bowl should be held at lap level.
- (4) Pick up a 95%-full cup and saucer and carry them 20 feet (6 meters) and then replace on table.
- (5) Carry a tray with 2 glasses that are each filled to the 95% mark for 20 feet (6 meters).
- (6) Copy 3 short sentences keeping letters in predetermined boundaries. Do not rest the arm on the table.

- (7) Sign name. Do not let the arm rest on the table.
- (8) Place 4 bills consecutively in a wallet without resting either on a table.
- (9) Place 3 keys of 3 different sizes in 3 locks and unlock the locks. Do not rest the arms or locks on the table.
- (10) Place 5 coins of different sizes in a vertical opening in a metal box. The box should be placed on the table in front of the subject.
- (11) Place 1 plug in an electrical socket. Hold the plug and socket in hands.
- (12) Correctly dial 15 numbers on a Touch-Tone telephone placed on the table.
- (13) Use 2 flat-head screwdrivers of different lengths to completely screw 2 screws into a metal board. The screwdrivers and the metal board should be held in each hand.
- (14) Thread 1 needle. Hold the needle and thread in each hand.
- (15) Button 1 strip of 8 buttons on a shirt. The shirt be placed in front of the subject on a table.

Performance	Points
no difficulty; can perform the task as well as the rater could	0
mild difficulty	1
moderate difficulty	2
severe difficultly	3
unable to perform; unable to complete task; must give up part way through	4

total score = SUM(points for all 15 tasks)

Interpretation:

- minimum score: 0
- maximum score: 60
- The higher the score the greater the degree of impairment.

Performance: • The test is internally consistent with the Cronbach alpha 0.92.

- The test is valid based on correlation with the Tremor Disability Questionnaire the Videotaped Tremor Examination and Qunatitative Computerized Tremor Analysis.

References:

Louis ED Wendt KJ et al. Validity of a performance-based test of function in essential tremor. Arch Neurology. 1999; 56: 841-846.