

**NINDS CDE Notice of Copyright
Capabilities of Upper Extremity Test (CUE-T)**

Availability:	Please visit this website for more information: Capabilities of Upper Extremity Test
Classification:	Exploratory: Spinal Cord Injury (SCI) and SCI-Pediatric (age 16 years and over; not recommended for children under 16)
Short Description of Instrument:	<p>Construct measured: Upper Extremity Function</p> <p>Generic vs. disease specific: Generic</p> <p>Intended respondent: Participant</p> <p># of items: 19</p>
Comments/Special instructions:	<p>Scoring: The test has 17 items that assess unilateral actions of the right and left upper extremities separately and 2 items that involve both arms. Items are scored in one of three ways: 1) number of times an action can be completed in 30 seconds (e.g., reach forward); 2) amount of weight moved or force generated (e.g., pull weight, grasp dynamometer); or 3) time taken to complete the item (e.g., push with index finger). The raw scores are converted to a 5-point scale (0-4) matching the scoring of the CUE-Q. The total assessment has a possible range in scores from 0 to 144. Subscale scores can be generated for the right or left UE and for the right or left hand.</p> <p>Background: This is a performance measure. The CUE-T has 19 items (17 unilateral and tested separately for the right and left upper extremities; two bilateral items) that are scored on a five-point scale using one of three scoring dimensions (number of times task is completed; amount of weight; amount of time).</p>
Rationale/Justification:	<p>Strengths/Weaknesses: This test is a performance-based version of the CUE. Preliminary psychometric studies have been conducted. Development and field-testing for responsiveness is still underway. Requires tolerance to sitting (approximately one hour) and thus, may not be applicable for acute trials. Recommended for studies with subjects who are able to tolerate sitting for at least one hour.</p> <p>Psychometric Properties: Internal consistency established using Cronbach's alpha values; excellent for the total scale (0.97), the right/left sides (0.94/0.93), right/left arm items (0.88/0.86) and the right/left hand items (.95/.96). Test-retest reliability for individual items based on weighted kappa values was very good; all but 5 of 36 items had a kappa above the desired minimum value of 0.60. Validity of the CUE-T was evaluated by looking at the correlation of CUE-T scores with UEMS scores and SCIM self-care and mobility scores. Spearman correlations of the CUE-T total score with the UEMS and SCIM self-care and mobility scores were 0.83, 0.70, and 0.55 respectively.</p> <p>SCI-Pediatric-specific: Demonstrated to be reliable and valid in adult populations. Currently undergoing revision to improve sensitivity. Reliability and validity are being investigated in children by Marino et al. (2015).</p>

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References:	<p>Marino, R. J., Kern, S. B., Leiby, B., Schmidt-Read, M., & Mulcahey, M. J. (2015). Reliability and validity of the capabilities of upper extremity test (CUE-T) in subjects with chronic spinal cord injury. <i>J Spinal Cord Med</i>, 38(4), 498–504.</p> <p>Marino, R. J., Patrick, M., Albright, W., Leiby, B. E., Mulcahey, M., Schmidt-Read, M., & Kern, S. B. (2012). Development of an objective test of upper-limb function in tetraplegia: the capabilities of upper extremity test. <i>Am J Phys Med Rehabil</i>, 91(6), 478–486.</p> <p>SCI-Pediatric: There are no published psychometric studies on the CUE-T in youth with SCI.</p>
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