

Instrument	Cognitive Test for Delirium NOTE: This card is populated with information from the instrument's original validation study only.
Acronym	CTD
Primary use	Delirium Screening
Area assessed (Number of questions)	5 areas assessed: orientation (1 item); attention span (2 items); memory (2 items); comprehension (2 items); vigilance (2 items) 9 items total
Description	Assessment to identify delirium in the intensive care unit (ICU) that focuses on cognitive function. Designed to be brief and easy to administer to patients who are intubated or otherwise functionally restricted. Since cognitive testing is embedded in CTD and patients' scores may improve over time, this instrument is not ideal for daily rating.
Versions	1
Scoring information	Each area assessed has a formula to calculate a subtest score (0-6); the sum of these five subtest scores is the total score (0-30).
Cognitive testing	Assessment requires use of the Wechsler Memory Scale and Boston Diagnostic Aphasia Examination [these are copyrighted instruments; details on how to access listed below]
Estimated time to rate	10-15 minutes to administer and rate
Require trained rater	Yes – trained lay rater or clinician
Administer to	Patients in the ICU setting, including intubated or functionally restricted patients
Special resources required	Pictures for memory test and conversion formulas are included with test
How to obtain	Test available for download at http://dx.doi.org/10.1016/S0033-3182(96)71517-7 Wechsler Memory Scale: https://www.pearsonclinical.com/psychology/products/100000281/wechsler-memory-scale--fourth-edition-wms-iv.html Boston Diagnostic Aphasia Examination: http://www.linguisystems.com/products/product/display?itemid=10301
Licensing Fee*	None for instrument; Wechsler Memory Scale and Boston Diagnostic Aphasia Examination have licensing fees for use (see links above).
Languages available	English
Highest COSMIN** rating	2.5/6
Test Performance Characteristics	Hart 1996 <ul style="list-style-type: none"> • Inter-rater Reliability: coefficient alpha=0.87 • Concurrent Validity: Correlation with Mini-Mental State Examination [MMSE] in patients with: delirium=0.82; dementia=0.81; depression=0.51; schizophrenia=0.48 • Sensitivity compared to MMSE=100% • Specificity compared to MMSE=95.1%

* Fees and licensing information is effective as of 2018, but is subject to change over time

** COSMIN is used to rate a study's evaluation of a survey or test's measurement properties. COSMIN does NOT rate the instrument itself, but helps readers understand if they can have confidence in the results of studies evaluating measurement properties of surveys and tests. For example, a rigorous study evaluating a test with poor measurement properties will receive a "good" COSMIN rating, while a poorly-conducted study evaluating a test with good measurement properties will receive a "poor" COSMIN rating. Small sample size can impact all COSMIN ratings. You must consider both the COSMIN rating and the results of studies provided when forming your opinion about that test. *COSMIN ratings shown are based solely on the instrument's original validation study.*

Reference:

Hart, R.P., Levenson, J.L., Sessler, C.N., Best, A.M., Schwartz, S.M., Rutherford, L.E. (1996). Validation of a Cognitive Test for Delirium in Medical ICU Patients. *Psychosomatics*, 37:533-546. doi:10.1016/S0033-3182(96)71517-7

Last updated on **May 14, 2018**. If you are aware of any updates required for this document, please notify us via nidus@hsl.harvard.edu



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Reviews:

Adamis, D., Sharma, N., Whelan, P.J.P., Macdonald, A.J.D. (2010). Delirium scales: A review of current evidence. *Aging & Mental Health*, 14(5):543-55. doi:10.1080/13607860903421011

Carvalho, J.P.L.M., de Almeida, A.R.P., Gusmao-Flores, D. (2013). Delirium rating scales in critically ill patients: a systematic literature review. *Rev Bras Ter Intensiva*, 25(2):148-54. doi:10.5935/0103-507x.20130026

Gélinas, C., Bérubé, M., Chevrier, A., Pun, B. T., Ely, E. W., Skrobik, Y., & Barr, J. (2018). Delirium Assessment Tools for Use in Critically Ill Adults: A Psychometric Analysis and Systematic Review. *Critical care nurse*, 38(1), 38-49.

Leonard, M. M., Nekolaichuk, C., Meagher, D. J., Barnes, C., Gaudreau, J. D., Watanabe, S., ... & Lawlor, P. G. (2014). Practical assessment of delirium in palliative care. *Journal of pain and symptom management*, 48(2), 176-190.

Van den Boogaard, M., Pickkers, P., Schoonhoven, L. (2010). Assessment of delirium in ICU patients: a literature review. *Netherlands J of Crit Care*, 14(1):10-15.

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