

Instrument	4AT Rapid Clinical Test for Delirium NOTE: This card is populated with information from the instrument's original validation study only.
Acronym	4AT
Core Domain	Delirium Screening
Area assessed (Number of questions)	4 areas assessed: Alertness, Orientation assessed with Abbreviated Mental Test – 4 (AMT4), Attention assessed by Months of the Year Backwards, Acute Change or Fluctuating Course 4 items total
Description	Delirium assessment tool that can be used quickly in clinical settings. The 4AT is suitable for use in normal clinical practice and allows assessment of severely drowsy or agitated patients. Due to practice effects with specific test items, the 4AT is not designed for repeated daily monitoring for delirium. The 4AT can be used at first patient contact or at other times when delirium is suspected.
Versions	3, testing items and scoring unchanged across versions. Minor language and formatting changes from v1.0 to v1.2 (current version).
Scoring information	Rate each item on a scale of 0-4 or 0-2; add item scores for total score. Total scores above 4 points indicate possible delirium and/or cognitive impairment (CI); scores from 1-3 indicate possible CI; score of 0 indicates that delirium or severe CI are unlikely
Cognitive testing	Brief cognitive testing (the Months of the Year Backwards test and AMT4) are embedded within instrument
Estimated time to rate	<2 minutes including brief cognitive testing embedded in the interview
Require trained rater	Designed for use by clinicians. No special training is required.
Administer to	Patient, in-person
Special resources required	One item requires information from additional sources about the patient, such as rater's previous knowledge of patient, nurse, or medical records
How to obtain	Free download with brief instructions: https://www.the4at.com/
Licensing Fee*	None
Languages available	Arabic, Dutch, French, German, Italian, Norwegian, Russian, Spanish, Thai
Highest COSMIN** rating	4/6 [†]
Test Performance Characteristics	Bellelli 2014 Reference standard: Geriatrician diagnosis using DSM-IV-TR criteria <ul style="list-style-type: none"> •Sensitivity: in whole sample, 89.7%; no dementia subgroup, 83.3%, dementia subgroup, 94.1%. •Specificity: in whole sample, 84.1%; no dementia subgroup, 91.3%, dementia subgroup, 64.9%. •Internal consistency: Cronbach's $\alpha = 0.80$.

* 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 when forming your opinion about that test. *COSMIN ratings shown are based solely on the instrument's original validation study.*

† COSMIN breakdown: content validity: GOOD, effect indicators: GOOD, internal consistency: GOOD, inter-rater reliability: NONE, construct validity: NONE, external validity: GOOD

Reference:

Last updated on **December 10, 2024**. If you are aware of any updates required for this document, please notify us via nidus@hsl.harvard.edu



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Reviews:

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Penfold RS, Squires C, Angus A, Shenkin SD, Ibitoye T, Tiegies Z, Neufeld KJ, Avelino-Silva TJ, Davis D, Anand A, Duckworth AD, Guthrie B, MacLulich AMJ. [Delirium detection tools show varying completion rates and positive score rates when used at scale in routine practice in general hospital settings: A systematic review.](#) *J Am Geriatr Soc.* 2024 Jan 19. doi: 10.1111/jgs.18751.

Lin CJ, Su IC, Huang SW, Chen PY, Traynor V, Chang HR, Liu IH, Lai YS, Lee HC, Rolls K, Chiu HY. [Delirium assessment tools among hospitalized older adults: A systematic review and metaanalysis of diagnostic accuracy.](#) *Ageing Res Rev.* 2023 Sep;90:102025.

Tiegies Z, MacLulich AMJ, Anand A, Brookes C, Cassarino M, O'connor M, Ryan D, Saller T, Arora RC, Chang Y, Agarwal K, Taffet G, Quinn T, Shenkin SD, Galvin R. [Diagnostic accuracy of the 4AT for delirium detection in older adults: systematic review and meta-analysis.](#) *Age Ageing.* 2021 May 5;50(3):733-743.

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