Instrument	Confusion Assessment Method NOTE: This card is populated with information from the instrument's original validation study only.	
Acronym	CAM	
Primary Use	Delirium Screening	
Area assessed (Number of questions)	*Short Form* – 4 questions pertaining to the following core features: Acute Onset & Fluctuating Course; Inattention; Disorganized Thinking; Altered Level of Consciousness	*Long Form* – 10 questions, includes the following features in addition to Short Form: Disorientation; Memory Impairment; Perceptual Disturbances; Psychomotor Agitation and Retardation; Altered Sleep-Wake Cycle
Description	An instrument to improve identification and recognition of delirium; a standardized method to enable non-psychiatrically trained clinicians to identify delirium quickly and accurately in clinical and research settings.	
Versions	2 (Short and Long forms)	
Scoring information	Delirium scored as 'present' (1) or 'absent' (0) based on question responses; CAM is considered positive based on the CAM algorithm: presence of acute onset or fluctuating course –AND- inattention -AND EITHER- disorganized thinking or altered level of consciousness.	
Cognitive testing	To rate the CAM, you must perform brief (5-10 min) formal cognitive testing. You can use any instrument, such as the Short Portable Mental Status Questionnaire or Mini-Cog Test.	
Estimated time to rate	3-5 minutes for cognitive testing, followed by 3 minutes for rating instrument (short form); 5 minutes for rating long form	
Require trained rater	Yes – trained lay raters or clinicians	
Administer to	Patient, in-person	
How to obtain	Detailed free instructions (registration required) at http://hospitalelderlifeprogram.org	
Licensing Fee*	None for non-profit or educational uses	
Languages available	English, Arabic, Dutch, French, German, Italian, Polish, Portuguese, Spanish, Thai, Turkish	
Highest COSMIN** rating	4.5/6†	
Test Performance Characteristics	**Inouye 1990** [Site 1: newly evaluated patients ≥65 years old at Geriatric Assessment Center and six wards at Yale-New Haven Hospital, N=30; Site 2: admitted patients with same inclusion criteria as Site 1 to Bernard Mitchell Hospital at University of Chicago, N=26]. **Reference Standard: Geriatric psychiatrist rating after comprehensive assessment.** •Reliability (inter-observer): presence/absence of delirium 100% k=1.0; for rating all nine clinical features 88% k=0.67; assessing 4 CAM features 93% K=0.81 •Convergent Validity (Compared to Mini-Mental State Examination [MMSE]): Kappa (k)=0.64, story recall k=0.59, Visual Analog Scale for Confusion k=0.82, digit span test k=0.66 •Sensitivity/Specificity: 1.00/0.95 (Site 1); 0.94/0.90 (Site 2) •Positive Predictive Accuracy: 91% (Site 1); 94% (Site 2) •Negative Predictive Accuracy: 100% (Site 1); 90% (Site 2)	

* 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.*

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

Last updated on **October 27, 2020.** If you are aware of any updates required for this document, please notify us via nidus@hsl.harvard.edu .

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