

**Delirium Severity Measures Summary Table**

Abbreviation	Instrument	Citation	Number of items	Time to administer	Training or certification requirements	Primary use of tool	Background	Notes
<b>CAM-S Long Form</b>	Confusion Assessment Method - Severity Scale, Long Form	Inouye, S. K., Kosar, C. M., Tommet, D., Schmitt, E. M., Puelle, M. R., Saczynski, J. S., . . . Jones, R. N. (2014). The CAM-S: development and validation of a new scoring system for delirium severity in 2 cohorts: the CAM-S score for delirium severity. <i>Annals of Internal Medicine</i> , 160(8), 526-533. doi:10.7326/M13-1927. PMC4038434.	10	10-15 min	Trained lay interviewers or clinicians	The instrument is suggested for clinical and research purposes, to track the level of severity of delirium symptoms	The CAM-S is a severity scale based on the additive scoring of symptoms rated in the CAM (Confusion Assessment Method). Inouye et al (2014) describe psychometric properties and validation analyses supportive of the use of the CAM-S as a measure of delirium severity. Two versions are described, a long form and a short form.	CAM-S is scored based on a brief cognitive screen to rate the core features of the Confusion Assessment Method. The severity score is created by an additive summary of the ratings ranging from 0-7 (short form) and 0-19 (long form).
<b>CAM-S Short Form</b>	Confusion Assessment Method - Severity scale, Short Form		4	< 5 mins inclusive				
<b>CRS</b>	Confusion Rating Scale	Williams, M. A., Ward, S. E., & Campbell, E. B. (1988). Confusion: testing versus observation. <i>Journal of Gerontological Nursing</i> , 14(1), 25-30. PMID: 3335761	4	Behaviors are rated on an 8hr shift	Trained nurses	Rating confusion among hospitalized patients.	Included disorientation, communication abnormality, inappropriate behaviors, illusions or hallucinations	Behaviors or symptoms are rated as 0 = not present at any time during shift, 1 = present at some time during shift, 2 = present at some time during the shift in marked form.
<b>CRS</b>	Confusion Rating Scale	Williams, M. A. (1991). Delirium/acute confusional states: evaluation devices in nursing. <i>International Psychogeriatrics</i> , 3(02), 301-308. PMID: 1811781	4	Behaviors are rated on an 8hr shift. Takes < 5 minutes to administer	Trained nurses	This instrument is suggested for clinical and research purposes to help identify the presence of delirium in a patient.	Development of the CRS was based on the results of exploration of delirium in elderly hip fracture patients (Williams et al., <i>Nurs. Res.</i> 1979:1(28):25-35).	Authors write: "Overall, the CRS should be regarded as an immature scale. Its strength is its reflection of clinical reality, but for research purposes the behaviors need to be operationalized more specifically, perhaps weighted, and additional dimensions added."
<b>CSE</b>	Confusional State Evaluation	Robertsson, B., Karlsson, I., Styrd, E., & Gottfries, C. G. (1997). Confusional State Evaluation (CSE): an instrument for measuring severity of delirium in the elderly. <i>British Journal of Psychiatry</i> , 170(6), 565-570. PMID: 9330025	12+10	30 minutes	Trained nurse, psychologist or physician.	This instrument is suggested for clinical and research purposes to track severity of delirium.	Developed specifically as an observer-rated scale for delirium severity assessment, based on literature review and neurologist and psychiatrist expert opinion and the GBS, CPRS, and DRS for inspiration.	12 items used to generate confusion score, 10 items evaluated individually, and address associated features (7 items) and duration and intensity (3 items). Ratings based on clinical patient interview and informant interview.
<b>DAS</b>	Delirium Assessment Scale	O'Keeffe, S. T. (1994). Rating the severity of delirium: the Delirium Assessment Scale. <i>International Journal of Geriatric Psychiatry</i> , 9(7), 551-556. DOI:10.1002/gps.930090708	9	"several minutes"	Unclear; in O'Keeffe (1994) all raters were physicians	The instrument is to use the operationalized criteria to determine the severity of delirium symptoms	An testing of an operationalization of DSM-3 criteria for rating the presence and severity of delirium as originally proposed by Gottlieb et al. (1991) Johnson et al. (1990).	
<b>DI, DIDX</b>	Delirium Index	McCusker, J., Cole, M., Bellavance, F., & Primeau, F. (1998). Reliability and validity of a new measure of severity of delirium. <i>International Psychogeriatrics</i> , 10(4), 421-433. PMID: 9924835	7	5-10min	Administered by a trained research assistant based only on observation of the patient and the administration of at least the first five questions of the MMSE	The DI is intended for use in monitoring changes in severity over time among patients previously diagnosed with delirium.	Based upon seven of the nine items included in the CAM.	The instrument can be found in the Appendix of this paper. Ratings are based solely upon observation of the individual patient, without additional information from family members, nursing staff, or the patient medical chart
<b>DOM</b>	Delirium-O-Meter	de Jonghe, J. F. M., Kalisvaart, K. J., Timmers, J. F. M., Kat, M. G., & Jackson, J. C. (2005). Delirium O Meter: a nurses' rating scale for monitoring delirium severity in geriatric patients. <i>International Journal of Geriatric Psychiatry</i> , 20(12), 1158-1166. PMID: 16315151	13	<5 min	Nurses without specific training in geriatric care	It is used for nurses to screen for the presence of delirium originally, it is also able to measure severity of delirium.	Developed on the basis of the DSM-IV criteria	The instrument can be found in the Appendix of this paper
<b>DOS</b>	Delirium Observation Screening Scale	Schuurmans, M. J., Shortridge-Baggett, L. M., & Duursma, S. A. (2003). The Delirium Observation Screening Scale: A screening instrument for delirium. <i>Research and theory for nursing practice</i> , 17(1), 31-50. DOI: 10.1891/rtnp.17.1.31.53169	25	<5 min	Nurse with a basic knowledge of geriatrics or caregiver; minimal training is required	Designed to capture early symptoms of delirium that nurses can observe during regular nursing care. Can be used in routine daily clinical practice to measure and monitor severity of delirium by nurses.	Developed on the basis of the DSM-IV criteria, and to specifically overcome perceived limitations of the Clinical Assessment of Confusion - A, the CRS, and NEECHAM.	See also Schuurmans, M. J. (1996). Vroegtijdige signalering van het delier door verpleegkundigen [Early recognition of delirium by nurses]. In <i>Onderzoek in de verpleging en verzorging in relatie tot de praktijk</i> (pp. 55-60) De Tijdstroom/LCVV, Maastricht.



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DRS	Delirium Rating Scale	Trzepacz PT, Baker RW, Greenhouse J. A symptom rating scale for delirium. <i>Psychiatry Res.</i> 1988;23(1):89-97. PMID: 3363018	10	NR; rating must be based on observations reflecting at least a 24-hour period	Psychiatrist or trained clinician	To identify and quantitate the severity of delirium; for use in research and treatment evaluation.	At the time developed, the authors report the state of art in delirium severity measurement was clinician global impairment ratings. This instrument was designed as an observer rating scale with symptoms informed by DSM criteria.	Rated by the clinician using all available information from the patient interview, mental status examination, medical history and tests, nursing observations, family reports, etc. This is the old version and the DRS-R-98 is the more recent version.
DRS-R-98	Delirium Rating Scale-Revised-98	Trzepacz, P. T., Mittal, D., Torres, R., Canary, K., Norton, J., & Jimerson, N. (2001). Validation of the Delirium Rating Scale-Revised-98: comparison with the Delirium Rating Scale and the Cognitive Test for Delirium. <i>The Journal of neuropsychiatry and clinical neurosciences</i> , 13(2), 229-242. PMID: 11449030	16 (13 for severity)	20-30 minutes for scoring; >2 hours for gathering information needed to rate the items (see Notes).	Psychiatrists, other physicians, nurses, and psychologists can use it if they have had appropriate clinical training in evaluating psychiatric phenomenology in medically ill patients. Rater must be clinically trained.	Initial assessment and repeated measurements of delirium; can be used in research or comprehensive clinical evaluations symptom severity	Revised version of DRS	All available sources of information are used to rate the items (nurses, family, chart) in addition to examination of the patient. Timeframe >2 hours is advised.
MDAS	Memorial Delirium Rating Scale	Breitbart, W., Rosenfeld, B., Roth, A., Smith, M. J., Cohen, K., & Passik, S. (1997). The Memorial Delirium Assessment Scale. <i>Journal of Pain Symptom Management</i> , 13(3), 128-137. PMID: 9114631	10	>10 min, plus additional 15-30 mins to establish rapport, review chart records, and speak to staff/family members	Trained clinicians	A measure of delirium severity among medically ill patients. Designed to be used repeatedly within a 24-hr period and without the use of additional adjunctive measures (such as mental status tests). The authors note that the tool might also be useful for "establishing a diagnosis of delirium."	Developed to address perceived shortcomings of CAM (screening, not severity rating) and DRS (includes items not expected to vary). Designed to be consistent with DSM-III+, DSM-IV, and ICD-9 classification systems.	Authors provide specific instructions for handling missing item responses (prorating).
NEECHAM	NEECHAM Confusion Scale	Neelon, V. J., Champagne, M. T., Carlson, J. R., & Funk, S. G. (1996). The NEECHAM Confusion Scale: construction, validation, and clinical testing. <i>Nursing Research</i> , 45(6), 324. PMID: 8941300	9	10 min	Nurses	Designed as a rapid assessment of "acute confusional state or delirium"; intended for routine systematic monitoring of patients.	Designed based on literature review, expert research team and consultant opinion. 3 subscales (processing, behavior, physiologic control).	Commonly criticized for including risk factors or cause indicators (vital signs, oxygen saturation, urinary continence)
Nu-DESC	Nursing Delirium Screening Scale	Gaudreau, J. D., Gagnon, P., Harel, F., & Roy, M. A. (2005). Impact on delirium detection of using a sensitive instrument integrated into clinical practice. <i>General Hospital Psychiatry</i> , 27(3), 194-199. PMID: 15882766	5	NR	Nurses	Designed for routine use in busy inpatient settings and without patient participation.  Gadreau et al (2005) validate in terms of concurrent criterion validity.	Derived from the CRS but with modifications to maintain consistency with DSM-IV. The Nu-DESC adds a fifth psychomotor retardation item to the CRS.	It is interesting that the Nu-DESC is described as a screening scale and evaluated in terms of concurrent criterion validity in Gaudreau et al (2005), but Williams et al (1991; <i>Int Psychogeriatr</i> 2(3):301-8) imply the CRS is useful for grading severity.
RCDS	Reversible Cognitive Dysfunction Scale	Treloar, A. J., & Macdonald, A. (1997). Outcome of delirium, part 1. Outcome of delirium diagnosed by DSM III R, ICD 10 and CAMDEX and derivation of the Reversible Cognitive Dysfunction Scale among acute geriatric inpatients. <i>International Journal of Geriatric Psychiatry</i> , 12(6), 609-613. PMID: 9215940	Unclear	NR	Unclear	To identify feature of acute cognitive impairment that predict likelihood of recovery.	Inspired by the observation that standard definitions of delirium are poor predictors of recovery, and proposed reversible cognitive dysfunction as an alternative concept.	Despite the title, this manuscript does not describe the "scale" in a useful way.