Appendix I: DSM-IV and scales for measuring delirium

DSM-IV criteria

The criteria from the 'Diagnostic and Statistical Manual of Mental Disorders' [DSM IV] (1994) describe delirium as:

(a) disturbance of consciousness (i.e., reduced clarity of awareness of the environment) with reduced ability to focus, sustain, or shift attention.

(b) a change in cognition (such as memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance that is not better accounted for by a pre-existing, established, or evolving dementia.

(c) the disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day.

(d) there is evidence from the history, physical examination, and laboratory findings that: (i) the disturbance is caused by the direct physiological consequences of a general medical condition, (ii) the symptoms in criterion (i) developed during substance intoxication, or during or shortly after, a withdrawal syndrome, or (iii) the delirium has more than one aetiology".

ICD-10

2.2. Other instruments

Typically delirium is diagnosed by examining changes in cognitive function, and this is linked to the DSM IV criteria. Validated instruments, based on the operational application of the DSM-IV or DSM-III-R diagnostic criteria, include (table I1):

Table I1: validated instruments for delirium

Instrument	Description
Confusion Assessment Method (CAM)	Long and short version of CAM Long version 10 items operationalised on DSM-IIIR criteria: • Acute change in mental status • Inattention • Altered level of consciousness • Disorganised thinking • Disorientation • Memory impairment • Perceptual disturbances • Psychomotor agitation • Psychomotor retardation • Altered sleep-wake cycle Short version 4 features: 1. Acute onset and fluctuating course 2. Inattention 3. Disorganised thinking 4. Altered level of consciousness For diagnosis of delirium, features 1 and 2 must be displayed AND either feature 3 or 4 must be displayed.
Instrument	**Description**
Confusion Assessment Method-Intensive Care Unit (CAM-ICU)	1. Acute onset and fluctuating course 2. Inattention 3. Disorganised thinking 4. Altered level of consciousness For diagnosis of delirium, features 1 and 2 along with feature 3 or feature 4 must be displayed Feature 2 Inattention is assessed by using the Attention Screening Examination (part a: picture recognition; part b: Vigilance A random test).
Delirium Rating Scale (DRS)	Scale consists of characteristic symptoms of delirium and is not an operationalisation of any particular DSM version; intended for use in conjunction with standardized cognitive tests Items: • Temporal onset of symptoms • Perceptual disturbance • Hallucinations • Delusions • Psychomotor behaviour • Cognitive status • Sleep-wake cycle disturbance • Liability of mood • Physical disorder • Variability of symptoms

	10–item scale. Maximum of 32 points, each item rated from 0 to a maximum either of 2, 3, or 4 points, depending on the item. Symptoms rated over a 24 hour period.
Delirium Rating Scale-Revised-98 (DRS-R-98)	16 item rating scale includes: 3 'diagnostic items': • temporal onset • fluctuation • physical disorder 13 'severity symptoms': • attention, orientation, memory [short and long term] • sleep-wake cycle disturbances • perceptual disturbances and hallucinations • delusions • liability of affect • language • thought process abnormalities • motor agitation or retardation Scores range from 0 to 44; maximum total score of 46 points and maximum severity score of 39 points ; Scores of 15.25 and over indicative of delirium.
Delirium Symptom Interview (DSI)	Each domain comprised of questions and rated as present/absent 7 domains chosen by their relationship to the DSM-III criteria • Disorientation • Disturbance of sleep • Perceptual disturbance • Disturbance of consciousness • Incoherent speech • Level of psychomotor activity • Fluctuation behaviour
Instrument	**Description**
NEECHAM Confusion Scale	Assessed on the following 9 domains : • Responsiveness • Processing command • Orientation memory • Performance-appearance • Performance-motor • Physiology • Vital function • Oxygen stability • Continence Scores range: 0 to 30; 27–30: normal; 25–26: 'at risk' for confusion; 20–24: mildly confused 0–19: confused; ≤8: severely confused.
Delirium Index (DI)	Measurement of severity of symptoms of delirium that is based solely upon observation of the individual patient, without additional information from family members, nursing staff or the patient medical chart. Designed to be used in conjunction with the Mini-Mental State Exam (MMSE). Assessed on the following seven domains: • Inattention • Disorganised thinking • Altered level of consciousness • Disorientation • Memory impairment • Perceptual disturbances

	• Motor disturbances Score range 0 to 21; score for each item of 0 to 3 and 9: cannot assess; If the features inattention, disorganised thinking, disorientation or memory impairment cannot be assessed, replace by the score of item 3.
Intensive Care Delirium Screening Checklist (ICDSC)	Eight item checklist based on DSM-IV Criteria and features of delirium. • Altered level of consciousness • Inattention • Disorientation • Hallucinations or delusions • Psychomotor agitation or retardation • Inappropriate speech or mood • Sleep-wake cycle disturbance • Symptom fluctuation Checklist is based on data for the previous 24 hours. Total score 8 points. Scoring position of each item is equal to 1 point. A score of 4 or greater is a positive screen for delirium.
Memorial Delirium Assessment Scale (MDAS)	Assessed for severity on the following 10 item scale: • Reduced level of consciousness • Disorientation • Short-term memory impairment • Impaired digit span • Reduced ability to maintain and shift attention • Disorganised thinking • Perceptual disturbance • Delusions • Decreased or increased psychomotor activity • Sleep-wake cycle disturbance (disorder or arousal) Scores range from 0–30; score for each item ranges from 0 to 3, with 0=none to 3=severe; Cut off score of 13 is indicative of delirium (in cancer patients); Validated among hospital inpatients with advanced cancer or AIDS

1