

Delirium in terapia intensiva

DIAGNOSI

10 dicembre 2014

Background

- **Il delirium non è riconosciuto nel 75% dei casi, quando non è utilizzato uno strumento di diagnosi screening**
- **Vi è un mancato riconoscimento del delirium ipocinetico nell'88% dei casi**
- **Il personale infermieristico documenta invece il delirium ipercinetico nel 60-90% dei casi**
- **I sintomi e i segni di delirium sono riportati dai medici solo nel 30-50% dei casi**

Spronk PE, et al. *Intensive Care Med* 2009;35:1276-1280

Inouye SK, et al. *Arch Intern Med* 001;161:2467-2473

Voyer P, et al. *BMC Nurs* 2008;7:4

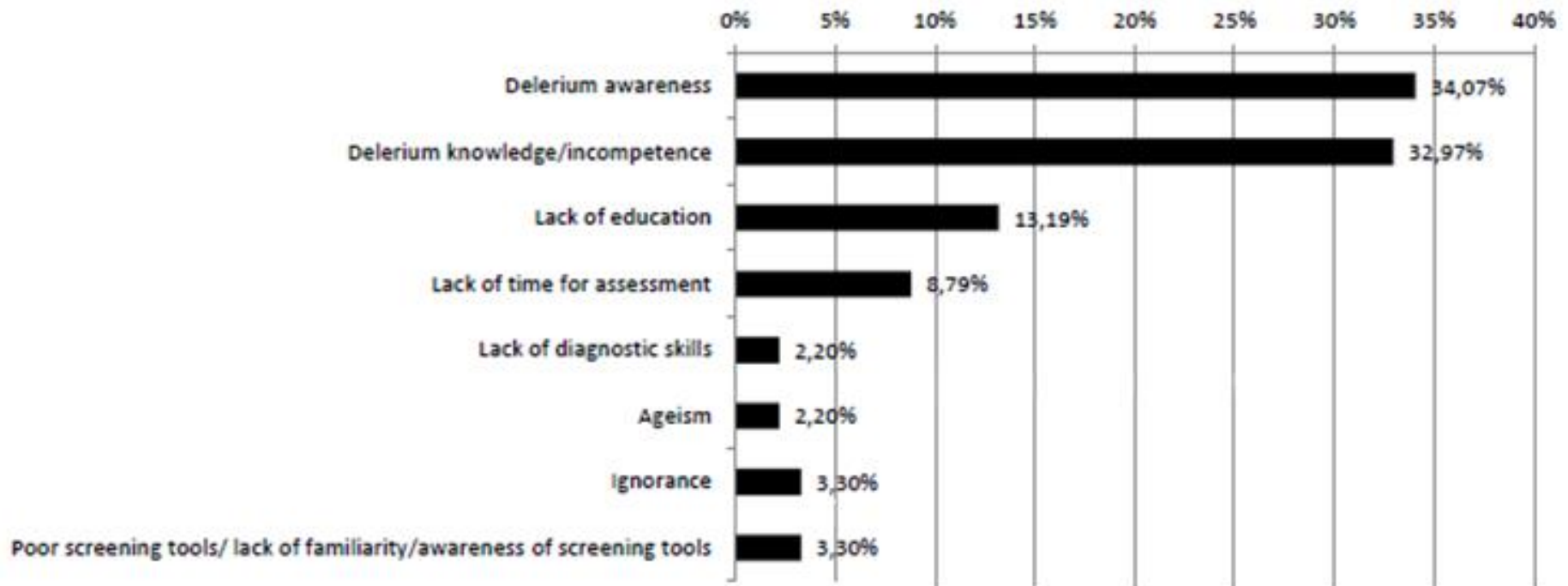
Morandi A, et al. *JAMDA* 2009;10:330-334

Fick DM, et al. *J Gerontol Nurs* 2007;33:40-47

Consensus and variations in opinions on delirium care: a survey of European delirium specialists

A. Morandi,^{1,2} D. Davis,³ J. K. Taylor,⁴ G. Bellelli,^{5,2} B. Olofsson,⁶ S. Kreisel,⁷
A. Teodorczuk,⁸ B. Kamholz,⁹ W. Hasemann,¹⁰ J. Young,¹¹ M. Agar,^{12,13}
S. E. de Rooij,¹⁴ D. Meagher,¹⁵ M. Trabucchi^{16,2} and A. M. MacLulich¹⁷

What do you think are the main barriers to improving the detection of delirium?



Diagnostic Gold Standard

Criteri DSM 5

A. Disturbo dell' **attenzione** (i.e., ridotta capacità a dirigere, focalizzare, sostenere e shiftare l' attenzione) e **consapevolezza** (ridotto orientamento del se nell' ambiente).

B. Il deficit si sviluppa in un periodo di tempo relativamente breve (generalmente ore o pochi giorni), rappresenta un cambiamento dai livelli di attenzione e consapevolezza di base, e tende a fluttuare in gravità nel corso della giornata.

C. É presente un altro deficit cognitivo (es, memoria, disorientamento, linguaggio, abilità visuospaziali, o dispercezioni).

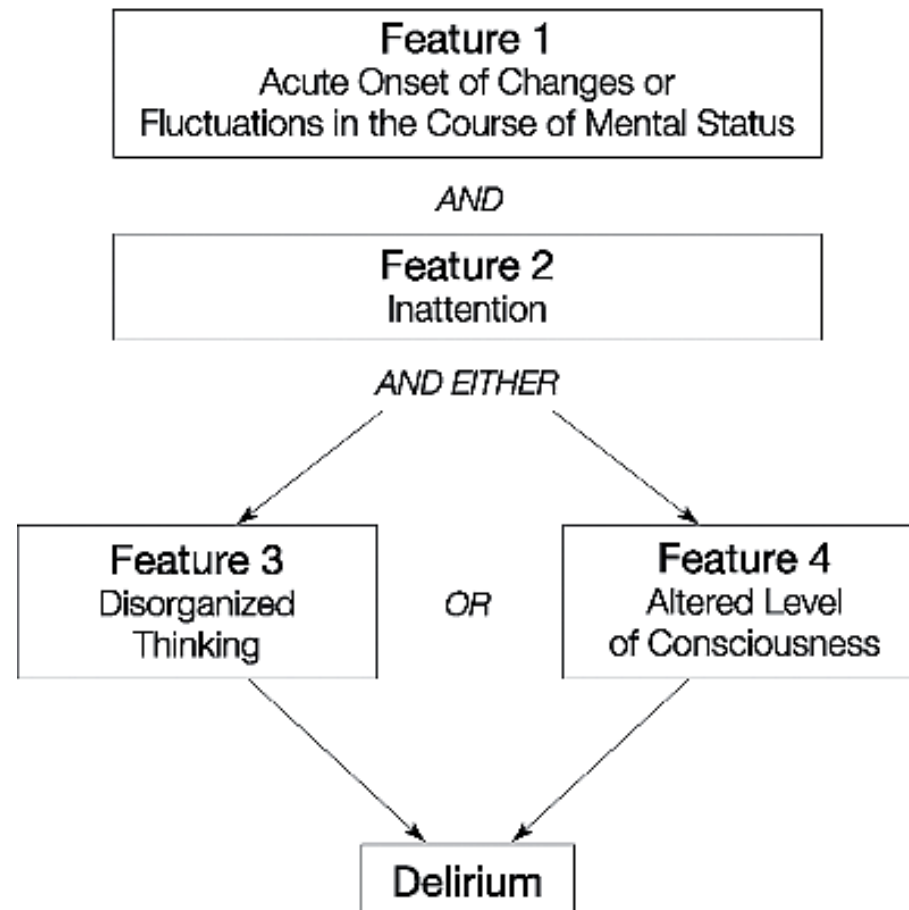
D. I deficit di cui ai criteri A e C non sono spiegabili sulla base di un preesistente (stazionario o in evoluzione) disturbo neurocognitivo e non si verificano in un contesto di grave riduzione dei livelli di arousal (es **coma**)

E. Vi è evidenza per storia clinica, esame obiettivo o risultati di laboratorio che il delirium è una diretta conseguenza di un problema clinico, intossicazione o sospensione di farmaci, esposizione a tossine, o è dovuto a molteplici eziologie.

Clarifying Confusion: The Confusion Assessment Method

A New Method for Detection of Delirium

Sharon K. Inouye, MD, MPH; Christopher H. van Dyck, MD; Cathy A. Alessi, MD; Sharyl Balkin, MD; Alan P. Siegel, MD; and Ralph I. Horwitz, MD



Ann Intern Med. 1990 Dec 15;113(12):941-8.

Strumenti per la diagnosi

Reparti medici/geriatrici/chirurgici/hospice

Confusion assessment method-CAM

4 "A"s Test (4AT)

Neecham confusion scale

Nursing delirium screening scale Nu-DESC

Delirium observation scale-DOS

MMSE

Terapie intensive – Pronto Soccorso

CAM-ICU (adulti) e P-CAM-ICU (pediatrica)

Intensive Care Delirium Check List- ICDSC

Cognitive test delirium –CTD

Brief Confusion Assessment Method (B-CAM)

Brief Confusion Assessment Method (B-CAM)

Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit

Detecting and Monitoring Delirium

- a. *Question:* Should ICU patients be monitored routinely for delirium with an objective bedside delirium instrument? (actionable)

Answer: We recommend routine monitoring for delirium in adult ICU patients (+1B).

- b. *Question:* Which instruments available for delirium monitoring have the strongest evidence for validity and reliability in ventilated and nonventilated medical and surgical ICU patients? (descriptive)

Answer: The Confusion Assessment Method for the ICU (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) are the most valid and reliable delirium monitoring tools in adult ICU patients (A).

(*Crit Care Med* 2013; 41:263–306)

Delirium in Mechanically Ventilated Patients

Validity and Reliability of the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)

Ely EW, JAMA 2001;286:2703-10

FASE 1

Fase 1 – Livello di Coscienza: RASS

Punteggio	Definizione	Descrizione	
+4	COMBATTIVO	Chiaramente combattivo, violento, imminente pericolo per sé o per lo staff	OSSERVAZIONE
+3	MOLTO AGITATO	Aggressivo, rischio evidente di rimozione invasività	
+2	AGITATO	Frequenti movimenti afinalistici, disadattamento alla ventilazione meccanica	
+1	IRREQUIETO	Ansioso ma senza movimenti aggressivi o vigorosi	
0	SVEGLIO E TRANQUILLO	Comprende i periodi di sonno fisiologico	
-1	SOPOROSO	Non completamente sveglio, apre gli occhi allo stimolo verbale, mantiene il contatto visivo > 10 secondi	STIMOLO VERBALE
-2	LIEVEMENTE SEDATO	Brevi risvegli allo stimolo verbale, contatto visivo < 10 secondi	
-3	MODERATAMENTE SEDATO	Movimenti o aperture degli occhi allo stimolo verbale (ma senza contatto visivo)	
Se RASS \geq -3 → somministra CAM-ICU (il paziente ha delirium oppure no?)			
-4	SEDAZIONE PROFONDA	Nessuna risposta allo stimolo verbale, movimenti o apertura occhi alla stimolazione fisica	STIMOLO TATTILE
-5	NON RISVEGLIABILE	Nessuna risposta alle stimolazioni tattile o dolorosa	
Se RASS \leq -4 → RIVALUTA più tardi (paziente attualmente incosciente)			

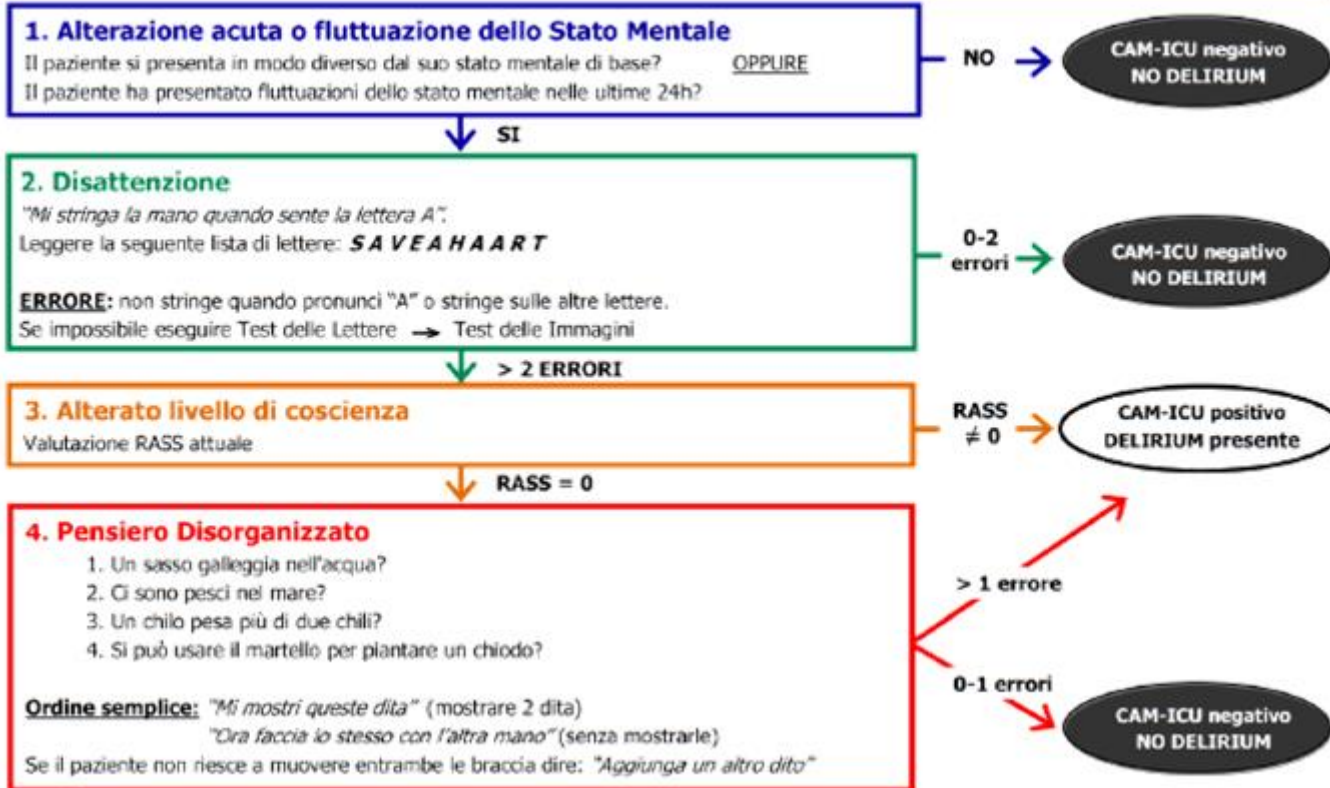
Delirium in Mechanically Ventilated Patients

Validity and Reliability of the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)

Ely EW, JAMA 2001;286:2703-10

FASE 2

Confusion Assessment Method (CAM-ICU) - DIAGRAMMA DI FLUSSO



Tablelle di conversione

Il CAM-ICU è stato validato utilizzando la RASS. Come mi devo comportare se l'ospedale in cui lavoro usa una diversa scala per la sedazione: il CAM-ICU può essere accompagnato da altre scale per la sedazione? (SAS [Ricker Sedation-Agitation Scale], Ramsay, MAAS [Motor Activity Assessment Scale]).

MAAS	RASS
0	-5
1	-4
2	-4, -3, -2, -1
3	0
4	+1
5	+2, +3
6	+4

Ramsay	RASS
1	+1, +2, +3, +4
2	-1, 0
3	-3, -2, -1
4	-4, -3, -2, -1
5	-4, -3, -2, -1
6	-5

SAS	RASS
7	+4
6	+3
5	+2, +1
4	0
3	-3, -2, -1
2	-4
1	-5

Intensive Care Delirium Screening Checklist: evaluation of a new screening tool

N. Bergeron
M.-J. Dubois
M. Dumont
S. Dial
Y. Skrobik

<ul style="list-style-type: none"> Score your patient over the entire shift. Components don't all need to be present at the same time. Components #1 through #4 require a focused bedside patient assessment. This cannot be completed when the patient is deeply sedated or comatose (i.e., SAS = 1 or 2; RASS = -4 or -5). Components #5 through #8 are based on observations throughout the entire shift. Information from the prior 24 hours (i.e., from prior 1-2 nursing shifts) should be obtained for components #7 and #8. 			
1. Altered level of consciousness Deep sedation/coma over entire shift [SAS= 1, 2; RASS = -4,-5] = Not assessable Agitation [SAS = 5, 6, or 7; RASS= 1-4] at any point = 1 point Normal wakefulness [SAS = 4; RASS = 0] over the entire shift = 0 points Light sedation [SAS = 3; RASS= -1, -2, -3] = 1 point (if no recent sedatives) = 0 points (if recent sedatives)	No	0	1 Yes
2. Inattention Difficulty following instructions or conversation; easily distracted by external stimuli. Will not reliably squeeze hands to spoken letter "A": S A V E A H A A R T	No	0	1 Yes
3. Disorientation In addition to name, place, and date, does the patient recognize ICU caregivers? Does patient know what kind of place they are in? (List examples such as dentist's office, home, work, hospital.)	No	0	1 Yes
4. Hallucination, delusion, or psychosis Ask the patient if they are having hallucinations or delusions (e.g., trying to catch an object that isn't there). Are they afraid of the people or things around them?	No	0	1 Yes
5. Psychomotor agitation or retardation EITHER: Hyperactivity requiring the use of sedative drugs or restraints to control potentially dangerous behavior (e.g., pulling IV lines out or hitting staff). OR: Hypoactive or clinically noticeable psychomotor slowing or retardation.	No	0	1 Yes
6. Inappropriate speech or mood Patient displays inappropriate emotion, disorganized or incoherent speech, sexual or inappropriate interactions, or is apathetic or overly demanding.	No	0	1 Yes
7. Sleep-wake cycle disturbance EITHER: Frequent awakening/<4 hours sleep at night. OR: Sleeping during much of the day.	No	0	1 Yes
8. Symptom fluctuation Fluctuation of any of the above symptoms over a 24-hour period.	No	0	1 Yes
TOTAL SHIFT SCORE			
(Min 0 – Max 8)			

Implementing Delirium Screening in the Intensive Care Unit: Secrets to Success

Nathan E. Brummel, Wesley Ely Crit Care Med. 2013 September ; 41(9): 2196–2208

Clinical Differences between the CAM-ICU and ICDSC

Duration over which symptoms are assessed

- The ICDSC gathers information over 8–24 hours. Since delirium is characterized by a fluctuating course, the "spot" nature of the CAM-ICU may miss an episode of delirium if specific delirium symptoms are not found at the time of the assessment, and this is more likely to be an issue in populations with a low severity of illness. This limitation can be addressed by increasing assessment frequency (e.g., every 4–12 hr) and with changes in the patient's mental status. Conversely, the longer assessment period of the ICDSC may lead to increased false-positive screens for delirium if a patient exhibited signs of delirium in the last 24 hours, but currently exhibits no signs.

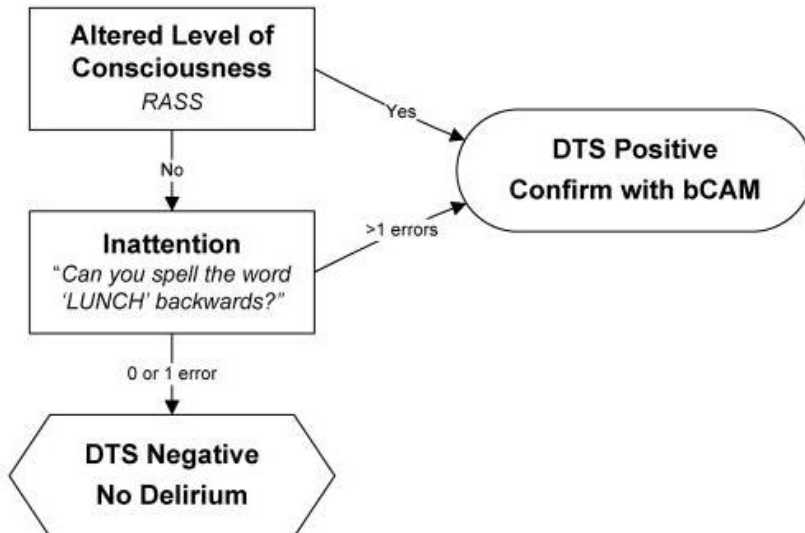
Methods for identifying delirium symptoms.

- The second clinical difference is how each tool identifies delirium symptoms. The CAM-ICU uses specifically defined and validated measures requiring interaction with the patient to determine the presence or absence of each delirium feature, providing a reproducible measure. A potential disadvantage is that the diagnostic performance may be dependent on patient characteristics such as age, premorbid cognition, and severity of illness. Nevertheless, Ely et al^[1] found the CAM-ICU's diagnostic performance was consistent across these subgroups. The ICDSC relies on observational methods to detect inattention, disorientation, hallucinations, presence of sleep, and inappropriate speech or mood.^[2] Detection of these symptoms may be particularly difficult in nonverbal mechanically ventilated patients, yet the ICDSC allows subjective interpretation with those more difficult circumstances. For this reason, the ICDSC relies more on clinical experience.

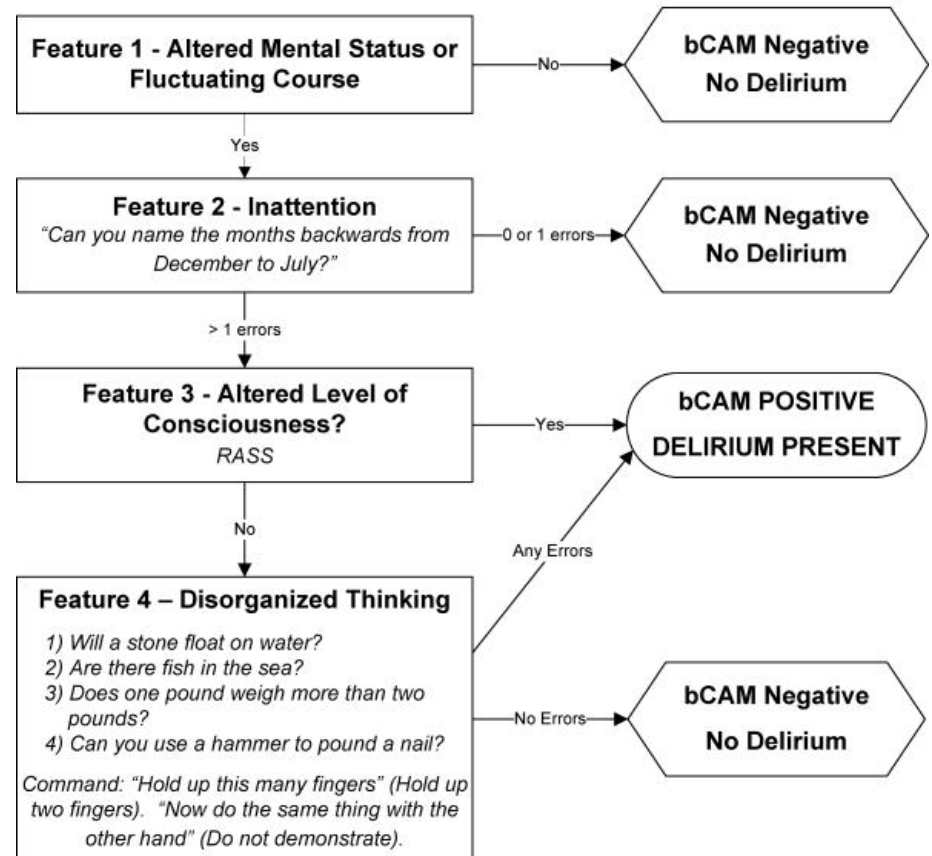
Diagnosing Delirium in Older Emergency Department Patients: Validity and Reliability of the Delirium Triage Screen and the Brief Confusion Assessment Method

Jin H. Han, MD, MSc,^{†*} Amanda Wilson, MD,[#] Eduard Wesley Ely, MD, MPH
 Ann Emerg Med. Nov 2013; 62(5): 457–465.

Step 1: Delirium Triage Screen Rule-out Screen: Highly Sensitive



Step 2: Brief Confusion Assessment Method Confirmation: Highly Specific



3D-CAM: Derivation and Validation of a 3-Minute Diagnostic Interview for CAM-Defined Delirium: A Cross-sectional Diagnostic Test Study.

Marcantonio ER, Ngo LH, O'Connor M, Jones RN, Crane PK, Metzger ED, Inouye SK.

3D CAM ASSESSMENT (CAM Copyright 2008, Hospital Elder Life Program, LLC. Not to be reproduced without permission)			CAM Feature			
Coding Instructions: Incorrect also includes "I don't know", and No response/non-sensical responses. For any 'Incorrect' or 'Yes' responses, check the box in the final column designating which feature is present.			1	2	3	4
READ: I have some questions about your thinking and memory....						
1. Can you tell me the year we are in right now?	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→	→		
2. Can you tell me the day of the week?	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→	→		
3. Can you tell me what type of place is this? (hospital)	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→	→		
4. I am going to read some numbers. I want you to repeat them in backwards order from the way I read them to you. For instance, if I say "5-2", you would say "2-5". OK? The first one is "7-5-1" (1-5-7).	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→			
5. The second is "8-3-4-3" (3-4-3-8).	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→			
6. Can you tell me the days of the week backwards, starting with Saturday? (S,F,T,W,T,M,S) may prompt with "what is day before" for up to 2 prompts.	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→			
7. Can you tell me the months of the year backwards, starting with December? (D,N,O,S,A,J,J,M,A,M,F,J) may prompt with "what is month before" for up to 2 prompts.	<input type="checkbox"/> Correct	<input type="checkbox"/> Incorrect	→			
8. During the past day have you felt confused?	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
9. During the past day did you think that you were not really in the hospital?	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
10. During the past day did you see things that were not really there?	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
Observer Ratings: To be completed after asking the patient questions 1-10 above.						
11. Was the patient sleepy, stuporous, or comatose during the interview?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→	→	→	
12. Did the patient show excessive absorption with ordinary objects in the environment (hyper vigilant)?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→	→	→	
13. Was the patient's flow of ideas unclear or illogical, for example tell a story unrelated to the interview (tangential)?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→	→		
14. Was the patient's conversation rambling, for example did he/she give inappropriately verbose and off target responses?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→	→		
15. Was the patient's speech unusually limited or sparse? (e.g. yes/no answers)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→	→		
16. Did the patient have trouble keeping track of what was being said during the interview?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→			
17. Did the patient appear inappropriately distracted by environmental stimuli?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	→			
18. Did the patient's level of consciousness fluctuate during the interview, for example, start to respond appropriately and then drift off?	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
19. Did the patient's level of attention fluctuate during the interview, e.g., did the patient's focus on the interview or performance on the attention tasks vary significantly?	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
20. Did the patient's speech/thinking fluctuate during the interview, for example, patient spoke slowly, then spoke very fast?	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
OPTIONAL QUESTIONS: COMPLETE ONLY IF FEATURE 1 IS NOT CHECKED AND FEATURE 2 IS CHECKED AND EITHER FEATURE 3 OR 4 IS CHECKED						
21. Contact a family member, friend, or health care provider who knows the patient well and ask: "Is there evidence of an acute change in mental status (memory or thinking) from the patient's baseline?"	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
22. IF SECOND DAY OF HOSPITALIZATION OR LATER AND PREVIOUS 3D-CAM RATINGS ARE AVAILABLE: Review previous 3D-CAM assessments and determine if there has been an acute change in performance, based on ANY new "positive" items.	<input type="checkbox"/> No	<input type="checkbox"/> Yes				
CAM Summary: Check if Feature Present in column above			1	2	3	4
DELIRIUM REQUIRES FEATURE 1 AND 2 and EITHER 3 OR 4: _____ Present _____ Not Present						

“ CAM requires cognitive assessment and substantial interviewer training. Moreover, application of the CAM varies greatly, which can lead to differential performance in detecting delirium. ”

“ Our overall goal was to develop and validate the 3D-CAM, which is a new 3-minute diagnostic assessment for delirium using the CAM algorithm. ”

CAM-S Short Form Scoring Worksheet

Feature	Severity Score
I. ACUTE ONSET AND FLUCTUATING COURSE a) Is there evidence of an acute change in mental status from the patient's baseline? OR b) Did the (abnormal) behavior fluctuate during the day, that is tend to come and go or increase and decrease in severity?	I. Either present: No 0 Yes: 1
II. INATTENTION Did the patient have difficulty focusing attention, for example, being easily distractible or having difficulty keeping track of what was being said?	II. No 0 Yes (mild) 1 Yes (marked) 2
III. DISORGANIZED THINKING Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?	III. No 0 Yes (mild) 1 Yes (marked) 2
IV. ALTERED LEVEL OF CONSCIOUSNESS Overall, how would you rate the patient's level of consciousness? -- Alert (normal) -- Vigilant (hyperalert) -- Lethargic (drowsy, easily aroused) -- Stupor (difficult to arouse)	IV. Normal: 0 Mild: vigilant or lethargic: 1 Marked: stupor or coma: 2
V. SEVERITY SCORE: Add the scores in rows I-IV	Severity Score Total (0-7) <input type="text"/>
Scoring the CAM-S: Rate each symptom of delirium listed in the short CAM instrument as absent (0), mild (1), marked (2). Acute onset or fluctuation is rated as absent or present. Summarize these scores into a composite that ranges from 0-7 (higher scores indicate more severe delirium)	

Ann Intern Med. 2014 Apr 15;160(8):526-33.

The CAM-S: development and validation of a new scoring system for delirium severity in 2 cohorts.

Inouye SK

- Inserire full text, perché gravità..

Question: Is implementation of routine delirium monitoring feasible in clinical practice? (descriptive)

Answer: Routine monitoring of delirium in adult ICU patients is feasible in clinical practice (B).

Crit Care Med 2013; 41: 263-306

Algoritmo per il management del delirium

Cambiamento acuto dello stato cognitivo – Think delirium

Fattori di rischio di delirium

- Malattia acuta
- Impairment sensoriale
- Recente dimissione da ospedale acuti
- Contenzione
- Demenza
- Politerapia
- Depressione
- Età >70 anni
- Recente anestesia/chirurgia
- Uso di oppiacei, benzodiazepine o anticolinergici
- Storia di abuso alcolico*
- Fragilità
- Catetere vescicale
- Dolore acuto/cronico

This pathway does NOT relate to alcohol or substance misuse. If this is suspected use appropriate local pathway.

Sospetto clinico di delirium o test di screening positivo [es. 4AT o CAM]

[I test di screening possono risultare falsamente negativi – usa giudizio clinico]

Tratta le cause acute, gravi (es sepsi, ipossia, ipoglicemia, intossicazione da farmaci)

Il team raccoglie le informazioni anamnestiche da un familiare/informatore e valuta la capacità del paziente di fornire un consenso al trattamento.

Se il paziente non è in grado, applicare la procedura dell'ospedale. I protocolli di trattamento devono essere discussi con il familiare/informatore.

- Individuare un informatore in grado di fornire notizie affidabili e interrogarlo sia sullo stato cognitivo e funzionale precedente il ricovero che sulle malattie da cui il paziente è affetto.
- Le domande devono riguardare l'uso di alcool e se, recentemente, vi siano state cadute, variazioni farmacologiche e/o dell'intake idrico-alimentare. Valutare il supporto assistenziale.
- Se non vi è l'informatore, contattare il medico curante/assistente sociale/altro
- Usa l'ICCODE o AD8 per raccogliere l'anamnesi • valuta il livello di assistenza fornito

Delirium is frequently undetected.

Be aware that patients with delirium may have paranoid ideas/delusions: risk assess and manage appropriately.

Valuta con test specifici & definisci lo stato cognitivo alla baseline (pre-ricovero)

- MMSE SPSMQ MOCA MiniCOG • Valuta memoria, umore, dispercuzioni, patterns del sonno, ragionamento

Conduci un esame obiettivo completo che includa un esame neurologico, l'assessment del linguaggio, ed il livello di arousal. Cerca segni locali di sepsi (es. vescica, polmoni, cute), stipsi e considera PR exam.

Questo algoritmo è riservato a persone con età > 18 anni

This pathway is not exhaustive

Other causes of delirium exist and additional or alternative assessments, investigations, management strategies or therapies may be necessary for an individual patient.

Clinical judgement & decisions should be made by the appropriate responsible healthcare professional.

Think Delirium!