30 Settembre 2011

Aggiornamenti in Geriatria

Gruppo di ricerca geriatrica

Una revisione degli strumenti per la rilevazione del delirium

Sara Morghen

Outline

- Introduzione e razionale delle scale di valutazione
- Principali strumenti utilizzati nella pratica clinica
- Criticità legate alla rilevazione del delirium attraverso l'utilizzo delle scale
- Ipotesi di valutazione integrata
- Conclusioni
- Problemi aperti e future directions

Introduzione

- La rilevazione del delirium si basa sulle competenze individuali, sul sospetto diagnostico e sulla valutazione ripetuta dei pazienti ad alto rischio

- Il delirium è indipendentemente associato ad aumenti significativi di:
  - Disabilità funzionale a 6-12 mesi
  - Durata della degenza (8-16 giorni)
  - Istituzionalizzazione
  - Mortalità
  - Costi sanitari

Prevalenza e setting

- General population (> 55 yy): 1.1%
- General hospital admissions: 9-10%
- Elderly general hospital admissions: 5-55%
- Elderly accident and emergency attenders: 16-32%
- AIDS: 17-40%
- Cancer patients (terminal stages): 28-85%
- Postoperative elderly patients: 15-62%
- ICU: 12-60% (70-87% pz anziani)
- Nursing home: up to 60%

BMJ 2007; 34:842-846

Delirium: Underrecognized and Undertreated

Chi-Un Pae, MD, PhD
David M. Marks, MD
Changsu Han, MD, PhD
Ashwin A. Patkar, MD
Prakash Masand, MD

« The difficulty in recognizing delirium is well known, with more than two thirds of cases going unrecognized»

«Misdiagnosis or late diagnosis partly explains why delirium is associated with adverse outcomes».

Curr Treat Opt Neurol 2008; 10: 386 -395

«One of the reasons that delirium is misdiagnosed and, hence, managed inapproprately is the similarity of symptoms with the 'three Ds': dementia, depression and delirium»

Gillis and MacDonald, Can Nurse 2006

«The moaning, groaning and grimacing that often accompany delirium may instead be interpreted with physical pain »

Moyer, Am J Hospice & Palliat Care 2011

«Delirium is underrecognized and untreated because of its heterogeneous and fluctuating presentation»

«health care professionals sometimes assume that the hyperactive subtype is the most prevalent in clinical practice, as this subtype comes to attention most easily. However , several studies have revealed that the hypoactive subtype is the most prevalent, accounting for more than half of delirious patients»

Curr Treat Opt Neurol 2008; 10: 386 -395

«Healthcare staff use a variety of informal words and phrases to describe delirium. This diagnostic ambivalence and imprecision greatly hinders the implementation of formal methods of improving care»

Age Ageing 2011; 40: 412 -414

«lack of awareness of delirium and failure to consider the consequences of this condition»

Am J Alzheimers Dis Other Demen 2011; 26(2): 97 -109

«Another possible reason for nondetection of delirium is the lack of formal cognitive assessment as part of routine screening across care setting»

Curr Treat Opt Neurol 2008; 10: 386 -395

Delirium is a Serious and Under-recognized Problem: Why Assessment of Mental Status Should be the Sixth Vital Sign

*Joseph H. Flaherty, MD, James Rudolph, MD, Ken Shay, DDS, MS, Barbara Kamholz, MD, Kenneth S. Boockvar, MD, MS, Marianne Shaughnessy, PhD, CRNP, Rita Shapiro, DO, Joan Stein, APRN, BC, Charlene Weir, PhD, RN, and Thomas Edes, MD**

Delirium is a common, morbid, and costly condition.

The morbidity associated with delirium and its underlying causes is best mitigated by early intervention

Comunications about mental status across sites of care would improve

JAMDA 2007; 10: 273 -275

Does This Patient Have Delirium?

Value of Bedside Instruments

Camilla L. Wong, MD, MHSc, FRCPC
Jayna Holroyd-Leduc, MD, FRCPC
David L. Simel, MD, MHS
Sharon E. Straus, MD, MSc, FRCPC

A formal assessment using DSM as reference standard may involve an in-depth interview ans series of cognitive tests by a clinician familiar with the DSM criteria.

Simpler bedside intruments may better guide which patients should receive formal consultation and intervention.

JAMA 2010; 304(7): 779 -786

Outline

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- Conclusioni
- Problemi aperti e future directions

Tipologie di strumenti

- Strumenti per l'individuazione del rischio di delirium
- Strumenti diagnostici/screening
- Strumenti di misura della gravità

La valutazione del rischio negli anziani ospedalizzati

Table 3. Independent Risk Factors for Delirium in Development Cohort

Risk Factor*	Adjusted Relative Risk (95% CI)†
Vision impairment (n = 6)	3.51 (1.15 to 10.71)
Severe illness (n = 20)	3.49 (1.48 to 8.23)
Cognitive impairment (n = 38)	2.82 (1.19 to 6.65)
High blood urea nitrogen/creatinine ratio (n = 49)	2.02 (0.89 to 4.60)

* Severe illness is a composite variable: APACHE score greater than 16 or a nurse rating of severe. Cognitive impairment is defined as a Mini-Mental State Examination score of less than 24. A high blood urea nitrogen/creatinine ratio is defined as 18 or more. See detailed definitions in text.

Scoring:

Basso rischio: 0 (9%)

Rischio intermedio: 1-2 (23%)

Alto rischio: 3-4 (83%)

Ann Intern Med 1993; 119(6): 474 -481

La valutazione del rischio negli anziani in PS

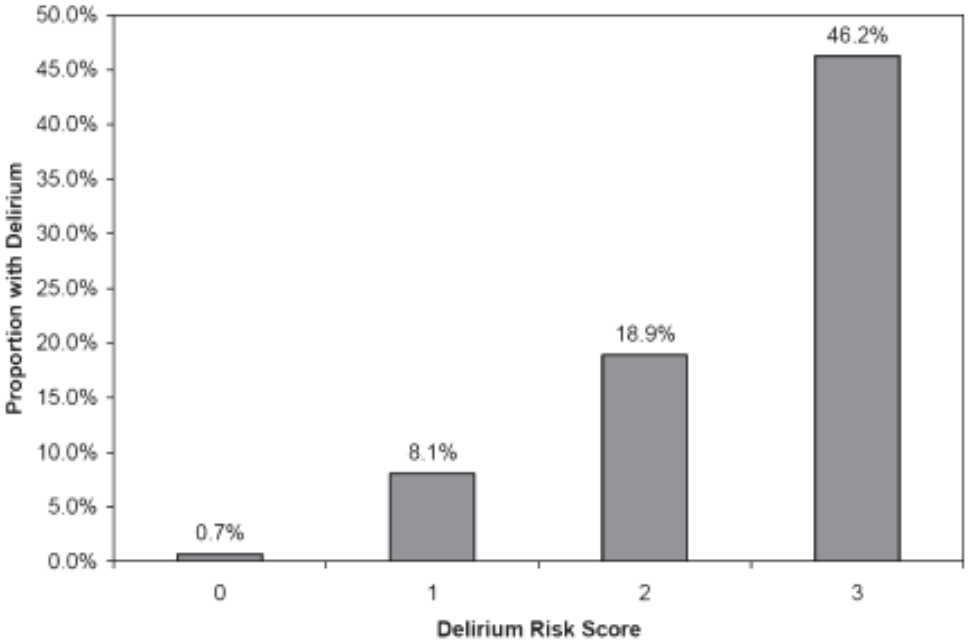


Figure 3. Proportion of older emergency department patients with delirium categorized by delirium risk score.

***Fattori di rischio individuati*:**

Demenza (MMSE < 24 o IQCODE > 3.38 o diagnosi documentata di demenza

Dipendenza funzionale (ADL ≤ 4)

Ipoacusia

Acad Emerg Med 2009; 119(6): 474 -481

Confusion Assessment Method (CAM)

The Confusion As
Algorithm

Feature 1. Acu
fluctuating co
- Is there ev
from basel
- Does the a
day?

Feature 2. Inat
- Does the p
(e.g., easily
what is bei

Feature 3. Disc
- Does the p
sations, un
dictable sw

Feature 4. Abnc
- Is the patient a
alert—hyperalert, lethargic, s se?

The diagnosis of delirium requires feat 1 and 2 and either 3 or 4.

Proprietà:
Strumento diagnostico per il delirium derivato dai criteri del DSM-IIIR.

Vantaggi:
Rapidità di esecuzione, validazione in vari setting e su più figure professionali.

Svantaggi/Criticità:
Strumento dicotomico; indicazioni operative relativamente standardizzate

Ann Intern Med 1990;113:941-948

Delirium
cale
8)

Item della gravità	Punteggio degli item	Informazioni ulteriori
Ciclo sonno-veglia		
Disturbi della percezione		
Deliri		
Labilità emotiva		
Linguaggio		
Processo del pensiero		
Agitazione motoria		
Rallentamento motorio		
Orientamento		
Attenzione		
Memoria a breve termine		
Memoria a lungo termine		
Capacità visuo-spaziale		
Item diagnostici		
Insorgenza temporale dei sintomi		
Fluttuazione della gravità dei sintom		
Disturbo fisico		

Proprietà:
Strumento sia diagnostico sia di misura dei sintomi del delirium. Revisione della precedente DRS.

Vantaggi:
Buone capacità discriminative tra delirium, demenza, depressione e schizofrenia.
Strumento disponibile in diverse lingue.
Presenza di cut-off.

Svantaggi/Criticità:
Procedura di scoring piuttosto laboriosa, con

17 ,
1-13> 14

ato
are la
n pazienti

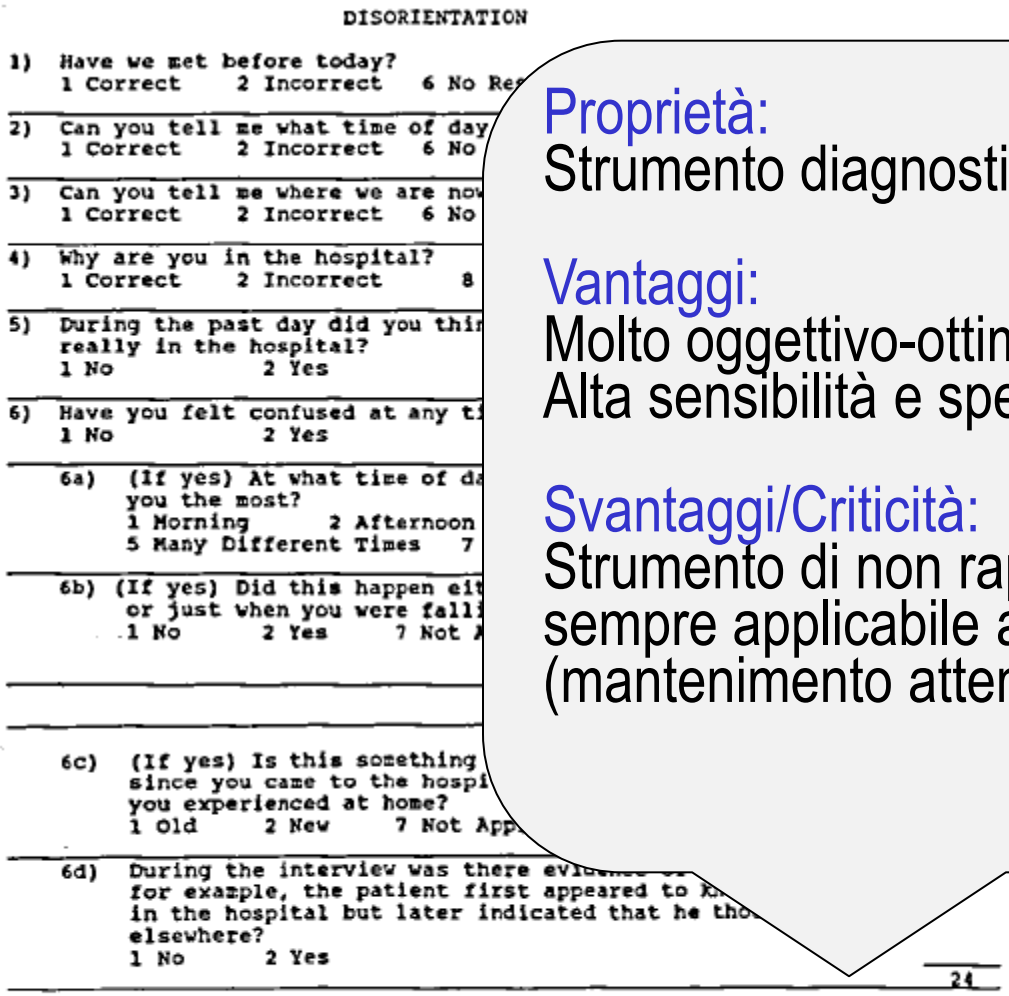
13. Capacità visuo-spaziale

Valutare formalmente ed informalmente. Considerare le difficoltà del paziente di orientarsi negli spostamenti nell'ambito degli spazi dove vive o nell'ambiente (per es. il paziente si perde). Valutare in modo formale attraverso il disegno o la copiatura di un disegno, la sistemazione dei pezzi di un puzzle, o disegnando una mappa e identificando le città principali ecc. Tenere in considerazione qualunque difetto della vista che possa interferire con la performance.

0. nessuna compromissione
1. lieve compromissione tale che il disegno nella sua globalità e la maggior parte dei dettagli o dei pezzi sono corretti; e/o piccole difficoltà ad orientarsi negli spostamenti nell'ambiente circostante
2. moderata compromissione con valutazione deformata del disegno nel suo insieme e/o numerosi errori nei dettagli o nei pezzi; e/o necessità di diverse correzioni per evitare che si perda in un ambiente nuovo , difficoltà a localizzare oggetti familiari nell'ambiente immediatamente circostante.
3. grave compromissione nei test formali; e/o vaga ripetutamente o si perde nell'ambiente intorno

J Neuropsychiatr Clin Neuroscie 2001;13:229-242

Delirium Symptom Interview (DSI)



DISORIENTATION

1) Have we met before today?
1 Correct 2 Incorrect 6 No Re

2) Can you tell me what time of day
1 Correct 2 Incorrect 6 No

3) Can you tell me where we are no
1 Correct 2 Incorrect 6 No

4) Why are you in the hospital?
1 Correct 2 Incorrect 8

5) During the past day did you thi
really in the hospital?
1 No 2 Yes

6) Have you felt confused at any t
1 No 2 Yes

6a) (If yes) At what time of d
you the most?
1 Morning 2 Afternoon
5 Many Different Times 7

6b) (If yes) Did this happen ei
or just when you were falli
1 No 2 Yes 7 Not

6c) (If yes) Is this something
since you came to the hospi
you experienced at home?
1 Old 2 New 7 Not App

6d) During the interview was there ev
for example, the patient first appeared to k
in the hospital but later indicated that he tho
elsewhere?
1 No 2 Yes

24

DISORIENTATION SCORE

25

Proprietà:
Strumento diagnostico per il delirium

Vantaggi:
Molto oggettivo-ottima concordanza tra rater.
Alta sensibilità e specificità.

Svantaggi/Criticità:
Strumento di non rapida esecuzione. Non sempre applicabile al paziente con delirium (mantenimento attenzione! Giudizio critico!)

J Geriatr Psychiatr Neurol 1992; 5: 14 -21

Delirium Index

DELIRIUM INDEX	Punteggio
1- Disattenzione	0 In grado di prestare attenzione 1 In grado di prestare attenzione ma compie almeno un errore nel ripetere "MONDO" al contrario 2 Il paziente è in grado di rispondere alle domande ma è distraibile e a volte ha difficoltà a mantenere la concetrazione sulle domande. Può presentare delle difficoltà nello spostare l'attenzione su delle nuove domande o le domande devono essere ripetute molte volte 3 Può essere non reattivo o completamente incapace di mantere l'attenzione sulle domande o rispondere alle domande. Ha difficoltà a focalizzare l'attenzione ed è spesso distratto da stimoli irrilevanti 9 Non valutabile
2- Pensiero disorganizzato	0 Le risposte sono logic 1 Le risposte sono vag 2 Alle volte i pensier 3 Può essere non res irrilevanti 9 Non valutabile
3- Livello di coscienza	0 Normale 1 Ipervigile o ipovig 2 Sonnolento. Rispo 3Non reattivo o com
4- Disorientamento	*(Domande suppleme* 0 Si ricorda la data (1 Non si ricorda la d 2 Non si ricorda il m 3 Non reattivo o non 9 Non valutabile
5- Memoria	(*Domande suppleme* 0 Si ricorda 3 parole 1Non si ricorda 1 de 2 Non si ricorda 2 de 3 Non reattivo o non 9 Non valutabile
6- Alterata percezione	(Si chiede al pazient sentono o se hanno h affermativamente, cl Osservare il paziente 0 Non vi sono segni di 1 Confonde gli stimoli (uno sparo) 2 Allucinazioni infrequenti e non pericolose 3 Allucinazioni frequenti e pericolose
7- Attività motoria	0 Normale 1 Risponde correttamente alle domande ma si muove spesso [illegible]retargico 2 Si muove continuamente (possono essere necessari mezzi di contenzione fisica) o è molto rallentato con pochi movimenti spontanei 3 Agitato, difficile da controllare (necessari mezzi di contenzione fisica) oppure i movimenti volontari sono assenti
Punteggio finale (0-21)	

Proprietà:

Strumento di misura, non diagnostico, per valutare la gravità dei sintomi associati a delirium.

Vantaggi:

Rapidità di esecuzione (se eseguito MMSE).

Svantaggi/Criticità:

15 studi di efficacia effettuati dal medesimo gruppo scientifico

Int Psychogeriatr 1998;10:421-433

Memorial Delirium Assessment Scale (MDAS) 1/2

ITEM 1–REDUCED LEVEL OF CONSCIOUSNESS (AWARENESS): Rate the patient's current awareness of and interaction with the environment (interviewer, other people/objects in the room; for example, ask patients to describe their surroundings).

- ☐ 0: none (patient spontaneously fully aware of environment and interacts appropriately)
- ☐ 1: mild (patient is unaware of some elements in the environment, or not spontaneously interacting appropriately with the interviewer; becomes fully aware and appropriately interactive when prodded strongly; interview is prolonged but not seriously disrupted)
- ☐ 2: moderate (patient is unaware of some or all elements in the environment, or not spontaneously interacting with the interviewer; becomes incompletely aware and inappropriately interactive when prodded strongly; interview is prolonged but not seriously disrupted)
- ☐ 3: severe (patient is unaware of all elements in the environment with no spontaneous interaction or awareness of the interviewer, so that the interview is difficult-to-impossible, even with maximal prodding

ITEM 2–DISORIENTATION: Rate current state by asking the following 10 orientation items: date, month, day, year, season, floor, name of hospital, city state, and country.

- ☐ 0: none (patient knows 9–10 items)
- ☐ 1: mild (patient knows 7–8 items)
- ☐ 2: moderate (patient knows 5–6 items)
- ☐ 3: severe (patient knows no more than 4 items)

ITEM 3–SHORT-TERM MEMORY IMPAIRMENT: Rate current state by using repetition and delayed recall of 3 words [patient must immediately repeat and recall words 5 min later after an intervening task. Use alternate sets of 3 words for successive evaluations (for example, apple, table, tomorrow; sky, cigar, justice)].

- ☐ 0: none (all 3 words repeated and recalled)
- ☐ 1: mild (all 3 repeated, patient fails to recall 1)
- ☐ 2: moderate (all 3 repeated, patient fails to recall 23)
- ☐ 3: severe (patient fails to repeat 1 or more words)

ITEM 4–IMPAIRED DIGIT SPAN: Rate current performance by asking subjects to repeat first 3, 4, then 5 digits forward and then 3, then 4 backwards; continue to the next step only if patient succeeds at the previous one.

- ☐ 0: none (patient can do at least 5 numbers forward and 4 backward)
- ☐ 1: mild (patient can do at least 5 numbers forward, 3 backward)
- ☐ 2: moderate (patient can do 4–5 numbers forward, cannot do 3 backward)
- ☐ 3: severe (patient can do no more than 3 numbers forward)

ITEM 5–REDUCED ABILITY TO MAINTAIN AND SHIFT ATTENTION: As indicated during the interview by questions needing to be rephrased and/or repeated because patient's attention wanders, patient loses track, patient is distracted by outside stimuli or over-absorbed in a task.

- ☐ 0: none (none of the above; patient maintains and shifts attention normally)
- ☐ 1: mild (above attentional problems occur once or twice without prolonging the interview)
- ☐ 2: moderate (above attentional problems occur often, prolonging the interview without seriously disrupting it)
- ☐ 3: severe (above attentional problems occur constantly, disrupting and making the interview difficult-to-impossible)

ITEM 6–DISORGANIZED THINKING: As indicated during the interview by rambling, irrelevant, or incoherent speech, or by tangential, circumstantial, or faulty reasoning. Ask patient a somewhat complex question (for example, "Describe your current medical condition.").

- ☐ 0: none (patient's speech is coherent and goal-directed)
- ☐ 1: mild (patient's speech is slightly difficult to follow; responses to questions are slightly off target but not so much as to prolong the interview)
- ☐ 2: moderate (disorganized thoughts or speech are clearly present, such that interview is prolonged but not disrupted)
- ☐ 3: severe (examination is very difficult or impossible due to disorganized thinking or speech)

J Pain Sympt Manag 1997; 13(3): 128 -137

Memorial Delirium Assessment Scale (MDAS) 2/2

ITEM 7–PERCEPTUAL DISTURBANCE: Misperceptions, illusions, hallucinations inferred from inappropriate behavior during the interview or admitted by subject, as well as those elicited from nurse/family/chart accounts of the past several hours or of the time since last examination:

- ☐ 0: none (no misperceptions, illusions, or hallucinations)
- ☐ 1: mild (misperceptions or illusions related to sleep, fleeting hallucinations on 1–2 occasions without inappropriate behavior)
- ☐ 2: moderate (hallucinations or frequent illusions on … that does not disrupt the interview)
- ☐ 3: severe (frequent or intense illusions or hal… disrupts the interview or interfe…

ITEM 8–DELUSIONS: Rate delusions inferred from … patient, as well as delusions elicited from nurse/fa… since the previous examination.

- ☐ 0: none (no evidence of misinterpretation…
- ☐ 1: mild (misinterpretations or suspiciousn…
- ☐ 2: moderate (delusions admitted by the patien… marginally disrupt the interview…
- ☐ 3: severe (persistent and/or intense delusio… or seriously interfering with me…

ITEM 9–DECREASED OR INCREASED PSYCHOM… activity during interview, by circling (a) hypoactive…

- ☐ 0: none (normal psychomotor activity)
- ☐ a b c 1: mild (Hypoactivity is barely noticeable, … barely noticeable or appears as…
- ☐ a b c 2: moderate (Hypoactivity is undeniable, with … slowness of movement; subject … undeniable, subject moves alm… consequence.)
- ☐ a b c 3: severe (Hypoactivity is severe; patient do… Hyperactivity is severe; patient … and/or restraint; getting throu…

ITEM 10–SLEEP–WAKE CYCLE DISTURBANCE (D… or stay awake at the appropriate times. Utilize dire… nurses, family, patient, or charts describing sleep–… examination. Use observations of the previous nigh…

- ☐ 0: none (at night, sleeps well; during the da…
- ☐ 1: mild (mild deviation from appropriate slee… asleep or transient night awakenings, … periods of drowsiness or, during the interview, is drow… herself)
- ☐ 2: moderate (moderate deviations from appropriate sleepfulness and wakefu… t, repeated and prolonged night awakening; during the day, reports of frequent … ged napping or, during the interview, can only be roused to complete wakefulness by … ng stimuli)
- ☐ 3: severe (severe deviations from appropriate sleepfulness and wakefulness states: at night, sleeplessness; during the day, patient spends most of the time sleeping or, during the interview, cannot be roused to full wakefulness by any stimuli)

Proprietà:

Strumento di misura dei sintomi, non diagnostico, del delirium.

Vantaggi:

Validazione su più popolazioni (anziani, oncologici). Definizione precisa delle procedure di valutazione.

Svantaggi/Criticità:

Richiede una componente testistica piuttosto estesa (circa 10 minuti).

J Pain Sympt Manag 1997; 13(3): 128 -137

Neecham Scale

LIVELLO 1 (PRO
- Attenzione
- Comandi
- Orientame

LIVELLO 2 (C
- Aspetto
- Comportar
- Comportar

LIVELLO 3 (C
- Stabilità de
- Stabilità del
- Controllo della contin aria

Proprietà:
Strumento infermieristico di screening per il delirium.

Vantaggi:
Misurazioni dettagliata del grado di confusione e/o dell'eventuale rischio di sviluppare confusione.

Svantaggi/Criticità:
Necessità di ricavare misure fisiologiche.
Misura il livello di confusione mentale.

Nurs Res 1996;45:324-330

Delirium Observation Scale

OBSERVATION The patient		Day shift			Evening shift			Night shift			TOTAL SCORE TODAY (0 - 39)
		Never	sometimes - always	unable	never	sometimes - always	unable	never	sometimes - always	unable	
1	Dozes off during conversation or activities	0	1								
2	Is easily distracted by stimuli from the environment	0									
3	Maintains attention to conversation or action	1									
4	Does not finish question or answer	0									
5	Gives answers that do not fit the question	0									
6	Reacts slowly to instructions	0									
7	Thinks they are somewhere else	0									
8	Knows which part of the day it is	1									
9	Remembers recent events	1									
10	Is picking, disorderly, restless	0									
11	Pulls IV tubing, feeding tubes, catheters etc.	0									
12	Is easily or suddenly emotional	0									
13	Sees/hears things which are not there	0									
TOTAL SCORE PER SHIFT (0 - 13)											
DOS SCALE FINAL SCORE = TOTAL SCORE TODAY											

Proprietà:
Strumento infermieristico di screening del delirium.

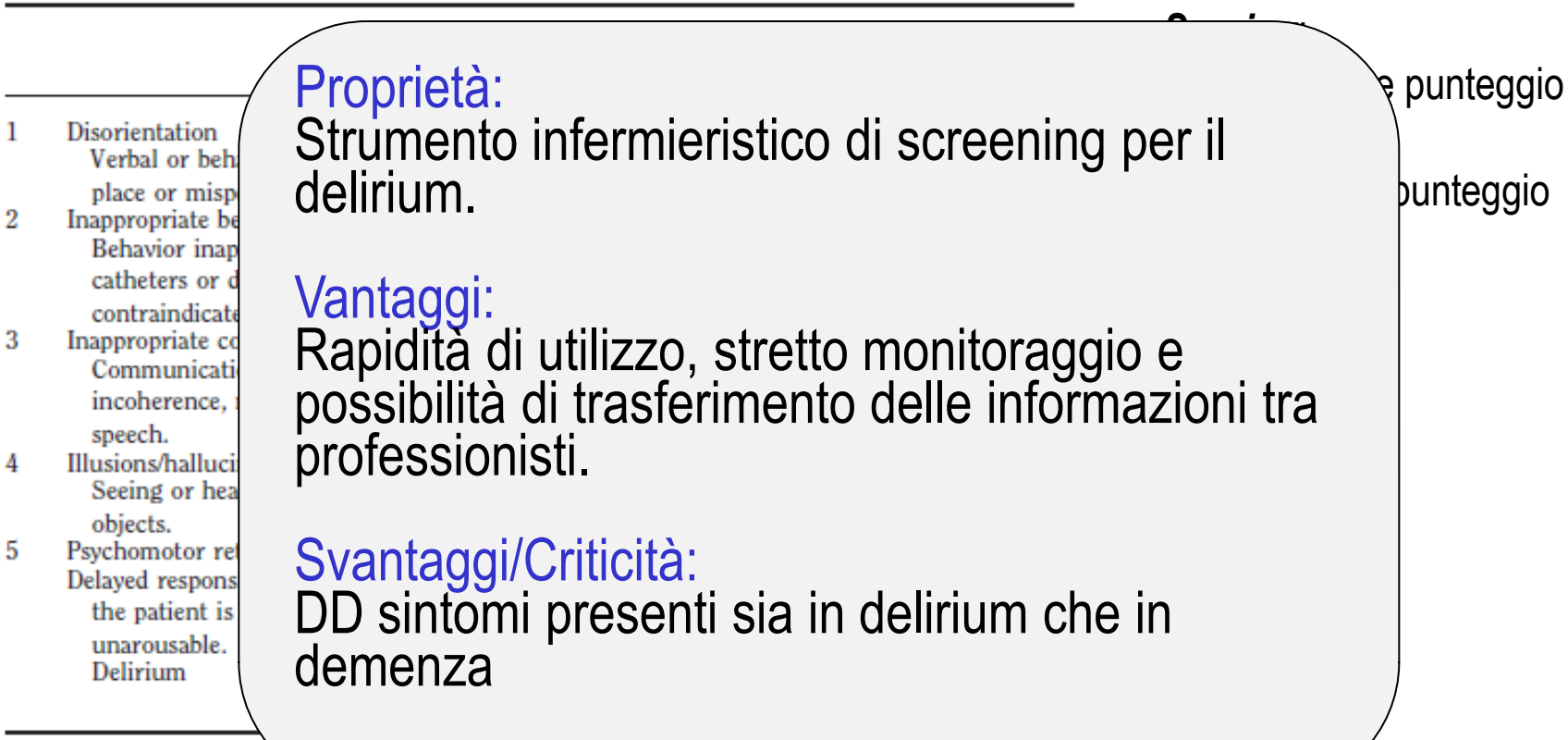
Vantaggi:
Rapidità di utilizzo, stretto monitoraggio e favorisce il trasferimento delle informazioni tra professionisti.

Svantaggi/Criticità:
Alcune informazioni possono difficilmente essere dedotte dall'osservazione indiretta (es. ricordare eventi recenti, data del giorno). Necessità di ricavare tali info sui tre turni.

DOS SCALE Final Score	< 3	Not delirious
	≥ 3	Probably delirious

Res Theory Nurs Pract 2003;17:31-50

Nursing Delirium Screening Score (Nu-DESC)



1 Disorientation
Verbal or beh
place or misp
2 Inappropriate be
Behavior inap
catheters or d
contraindicate
3 Inappropriate co
Communicati
incoherence,
speech.
4 Illusions/halluci
Seeing or hea
objects.
5 Psychomotor re
Delayed respons
the patient is
unarousable.
Delirium

e punteggio

punteggio

Proprietà:
Strumento infermieristico di screening per il delirium.

Vantaggi:
Rapidità di utilizzo, stretto monitoraggio e possibilità di trasferimento delle informazioni tra professionisti.

Svantaggi/Criticità:
DD sintomi presenti sia in delirium che in demenza

Gen Hosp Psychiatry 2005;27:194-199

Delirium-O-Meter (DOM)

	0	1	2	3	Score
1.Sustained attention	Is able to concentrate for longer periods of time during activities/ conversation	Absent-minded, questions needs to be repeated sometimes	Easily distracted, questions need to be repeated most of the time	Not able to sustain attention at all, reacts to all kind of stimuli	
2. Shifting attention	Switches between topics of conversation or act… any problem	Occasionally continues talking…	Much difficulty shifting attention…	Not at all able to raise attention or …cs/activities	
3. Orientation(Test!)	Says correct da… is/his way aro… persons			…ce and …mbers	
4. Consciousness	Appears wide… during the day…			…ds	
5. Apathy	Starts convers… appears to be … something			…to be	
6. Hypokinesia/ Psychomotor retardation	Normal sponta… movements				
7. Incoherence	What the pati… understand ev… does not know…			…t …loose	
8. Fluctuations in functioning	No diurnal va… normal sleep-			…s or …cycle	
9. Restlessness	Is able to sit a… something or … without being…			…luck- …ls out …used	
10. Delusions (thinking)	Thoughts are … no unfounded… no suspicious… attitude			…l that …the	
11. Hallucinations (perceiving)	Perception; wha… smells/senses/taste…			…that …edirected,	
12. Anxiety/fear	Feels at ease, not anxious	…ut what is go… …happen	Clearly anxious, fearful, needs some reassurance	Extremely anxious, frightened, needs a lot of reassurance	

Name patient:..... M/F Patient's date of birth..... Total score (or not applicable)

Observer:..... Dept./Wards:..... Date observation:..... Circle one: day-/evening-/nightshift

DELIRIUM-O-METER © J.F.M. de Jonghe and C.J. Kalisvaart, 2002

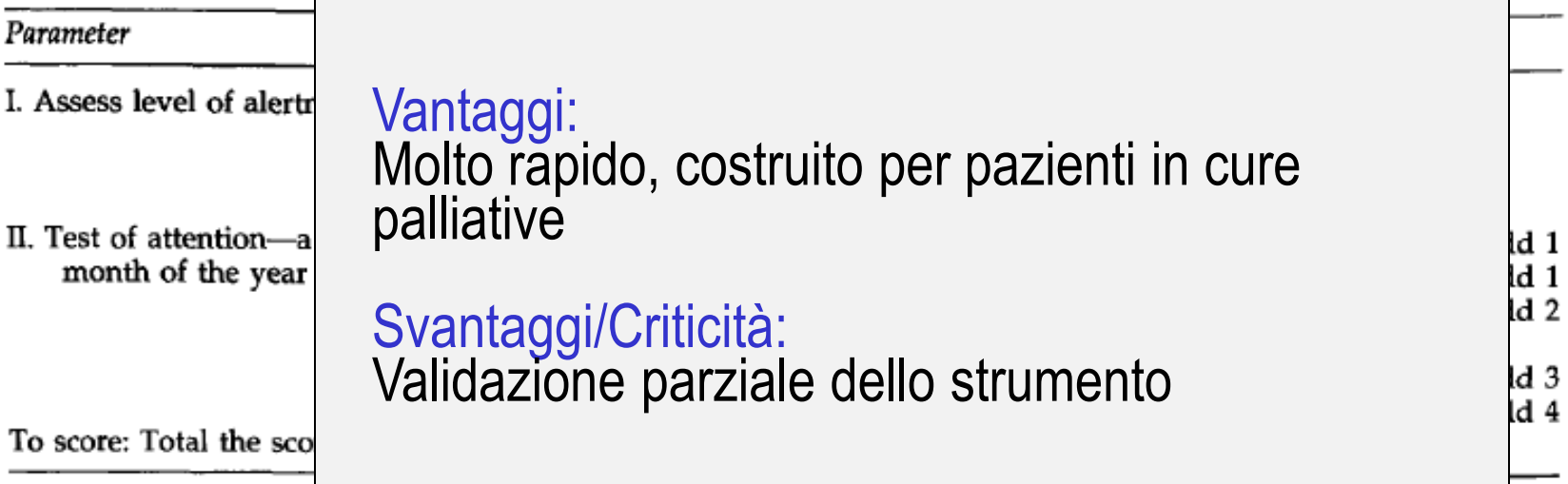
Proprietà: strumento infermieristico di misura dei sintomi del delirium.

Vantaggi:
Buona concordanza tra rater diversi. Solo un test aggiuntivo (orientamenti).

Svantaggi/Criticità:
Scarsa replicabilità in altri studi.

Int J Geriatr Psychiatry 2005; 20: 1158 -1166

Bedside Confusion Scale (BCS)



Parameter	
I. Assess level of alertr	
II. Test of attention—a month of the year	ld 1 ld 1 ld 2
	ld 3 ld 4
To score: Total the sco	

Proprietà: strumento di screening/diagnostico della confusione.

Vantaggi:
Molto rapido, costruito per pazienti in cure palliative

Svantaggi/Criticità:
Validazione parziale dello strumento

Scoring:
0= normale
1=punteggio borderline
2-5=punteggio alterato

J Palliat Med 2000; 4(3): 449 -456

Test characteristics of 11 bedside instruments for diagnosing delirium in hospitalized patients*

Instrument	Number of studies (*n*)†	Prevalence of delirium	Sensitivity (95% CI)	Specificity (CI)	+LR	–LR
CAC	1 (428)	15%	36% (24 to 49)	95% (92 to 97)	7.4	0.67
CAM	12 (1036)	15% to 62%	86% (74 to 93)	93% (87 to 96)	9.6	0.16
DOSS	2 (178)	10% to 20%	92% (74 to 98)	82% (66 to 92)	5.2	0.10
DRS ≥ 10	4 (943)	9% to 63%	95% (90 to 98)	79% (58 to 91)	4.3	0.07
DRS-R-98 > 20	2 (129)	35% to 40%	93% (80 to 98)	89% (68 to 97)	8.0	0.08
Digit Span Test	1 (419)	15%	34% (22 to 48)	90% (87 to 93)	3.4	0.73
GAR < 7	1 (87)	21%	94% (73 to 100)	99% (92 to 100)	65	0.06
MDAS ≥ 10	3 (330)	12% to 52%	92% (75 to 98)	92% (70 to 98)	12	0.09
MMSE < 24	1 (105)	63%	96% (87 to 99)	38% (23 to 55)	1.6	0.12
Nu-DESC > 0	1 (100)	25%	96% (80 to 100)	69% (59 to 79)	3.1	0.06
Vigilance "A" Test	1 (421)	15%	61% (47 to 74)	77% (73 to 81)	2.7	0.50

**CAC = Clinical Assessment of Confusion, CAM = Confusion Assessment Method, DOSS = Delirium Observation Screening Scale, DRS = Delirium Rating Scale, GAR = Global Attentiveness Rating, MDAS = Memorial Delirium Assessment Scale, MMSE = Mini-Mental State Examination, Nu-DESC = Nursing Delirium Screening Scale; diagnostic terms defined in Glossary.*

†Results for > 1 study based on pooled data.

Ann Intern Med 2011; 154(2)

Different assessment tools for intensive care unit delirium: Which score to use?*

Alawi Luetz, MD; Anja Heymann, MD; Finn M. Radtke, MD; Chokri Chenitir, MD; Ulrike Neuhaus, RN; Irit Nachtigall, MD; Vera von Dossow, MD; Susanne Marz, MD; Verena Eggers, MD; Andreas Heinz, MD; Klaus D. Wernecke, PhD; Claudia D. Spies, MD

Objective: To compare validity and reliability of three instruments for detection and assessment of delirium in intensive care unit (ICU) patients. Delirium in critically ill patients is associated with higher mortality, prolonged duration of ICU stay, and greater healthcare costs. Currently, there are several assessment tools available for detection of delirium, but only a few of these assessment systems are developed specifically to screen for delirium in ICU patients.

Design: Prospective cohort study.

Setting: ICU at a university hospital.

Patients: A total of 156 surgical patients aged ≥60 yrs consecutively admitted to the ICU, with a length of stay of at least 24 hrs.

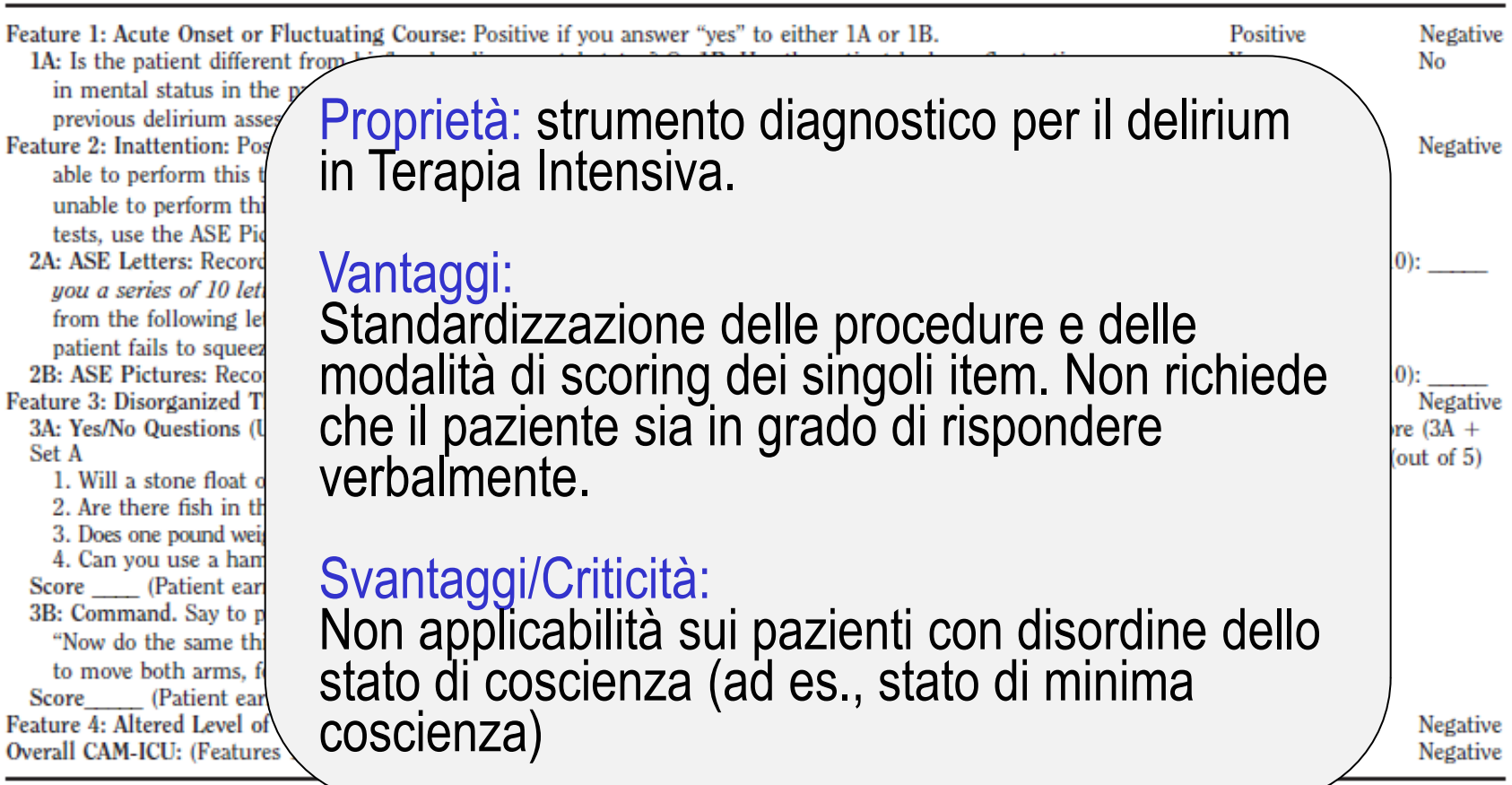
Measurements and Main Results: This study was approved by the institutional ethics committee. Trained staff members performed daily and independently the Confusion Assessment Method for the ICU (CAM-ICU), the Nursing Delirium Screening Scale (Nu-DESC), and the Delirium Detection Score (DDS). These evaluations were compared against the reference standard conducted by a delirium expert (blinded to the study), who used delirium criteria from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Of 156 patients, 63 (40%) were identified as delirious by the reference standard during the study. Using the CAM-ICU and the Nu-DESC, we measured comparable sensitivities (CAM-ICU, 81%; Nu-DESC, 83%). The specificity of the CAM-ICU was significantly higher than that of the Nu-DESC (96% vs. 81%, $p < .01$). In contrast, the DDS showed poor sensitivity (30%), whereas the specificity was significantly higher compared with the Nu-DESC (DDS, 91%; Nu-DESC, 81%, $p < .05$). The interrater reliability was "almost perfect" for the CAM-ICU ($\kappa = 0.89$) and "substantial" for DDS and Nu-DESC ($\kappa = 0.79, 0.68$).

Conclusion: The CAM-ICU showed the best validity of the evaluated scales to identify delirium in ICU patients. The Nu-DESC might be an alternative tool for detection of ICU delirium. The DDS should not be used as a screening tool. (Crit Care Med 2010; 38:409–418)

KEY WORDS: delirium; ICU; critical care; detection; screening; algorithms

Crit Care Med 2010; 38(2): 409 -418

CAM-ICU



Proprietà: strumento diagnostico per il delirium in Terapia Intensiva.

Vantaggi:
Standardizzazione delle procedure e delle modalità di scoring dei singoli item. Non richiede che il paziente sia in grado di rispondere verbalmente.

Svantaggi/Criticità:
Non applicabilità sui pazienti con disordine dello stato di coscienza (ad es., stato di minima coscienza)

Scoring:

RASS tra -3 e +4 → Delirium presente se:

Positivi i criteri 1 e 2 + 3 o 4.

Crit Care Med 2010; 38(2): 409 -418

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- Problemi aperti e future directions

Criticità scale

- Soggettività di assessment (anche intrastrumento)
- Sensibilità della scala (dicotomiche)
- Necessità del dato ‘premorboso’
- Scarsa abilità di distinguere il DSD

Symptom Profile of Delirium in Older People With and Without Dementia

Agneta Edlund, RN, Maria Lundström, RN, PhD, Olov Sandberg, MD, PhD,
Gösta Bucht, MD, PhD, Benny Brännström, RNT, PhD, and Yngve Gustafson, MD, PhD

Table 1. Description of Differences Between Demented and Nondemented Delirious Participants Regarding Background Data and Ongoing Drug Treatments

Characteristics	*Demented Participants With Delirium (n = 135)* n (%)	*Nondemented Participants With Delirium (n = 180)* n (%)	P *Value*
Age (mean ± SD)	84.8 ± 5.5	84.4 ± 4 .7	.511
Female	92 (68.1)	107 (59.4)	.113
Impaired vision	83 (61.5)	105 (58.3)	.573
Impaired hearing	70 (51.8)	87 (48.3)	.537
Previous delirium	55 (40.7)	44 (24.4)	.002
Previous depression	24 (17.8)	19 (10.6)	.065
Stroke	36 (26.7)	48 (26.7)	1.000
Indwelling urinary catheter	7 (5.2)	12 (6.7)	.585
Urinary tract infection	14 (10.4)	17 (9.4)	.785
Benzodiazepines	31 (23.0)	35 (19.4)	.448
Neuroleptics	50 (37.0)	43 (23.9)	.011
Analgesics	70 (51.9)	66 (36.7)	.007
Diuretics	55 (40.7)	96 (53.3)	.027
Antihypertensives	35 (25.9)	63 (35.0)	.085
Digitalis	23 (17.0)	50 (27.8)	.025
B-Hemoglobin (g/L)	131 ± 15	133 ± 18	.318
S-Creatinine (µmol/L)	96 ± 44	106 ± 46	.048
B-Glucose (mmol/L)	4.2 ± 1.2	4.7 ± 2.1	.030

Note: SD, Standard deviation.

Table 4. Differences Between Delirious Participants With and Without Dementia Regarding Physical and Practical Abilities

	Demented Participants With Delirium (n = 135) n (%)	*Nondemented Participants With Delirium (n = 180)* n (%)	P *Value*
Dresses independently	14 (10.4)	56 (31.1)	<.001
Washes independently	14 (10.4)	67 (37.2)	<.001
Uses toilet independently	29 (21.5)	93 (51.7)	<.001
Eats independently	81 (60.0)	143 (79.4)	<.001
Walks without aids or assistance (n = 135/179)	28 (20.7)	39 (21.8)	.823
Frequent social contacts	31 (23.0)	86 (47.8)	<.001
Reads frequently and spontaneously (n = 135/177)	17 (12.6)	70 (39.5)	<.001

J Geriatr Psychiatr Neurol 2007; 20(3): 166-171

Table 2. Differences Between Delirious Participants With and Without Dementia Regarding Psychiatric and Behavior Symptoms According to the OBS-Scale

	Demented Participants With Delirium (n = 135)	*Nondemented Participants With Delirium (n = 180)*	
	n (%)	*n (%)*	P *Value*
Anxiousness	90 (66.7)	98 (54.4)	.029
Psychomotor slowing	85 (63.0)	103 (57.2)	.304
Depressed mood	73 (54.1)	92 (51.1)	.602
Latency in reaction to verbal stimuli	68 (50.4)	58 (32.2)	.001
Restlessness, agitation	54 (40.0)	47 (26.1)	.009
Irritability	72 (53.3)	84 (46.7)	.152
Aggressivity (n = 135/179)	42 (31.1)	16 (8.9)	<.001
Emotional lability	45 (33.3)	54 (30.0)	.528
Euphoria	17 (12.6)	27 (15.0)	.542
Paranoiac symptoms	45 (33.3)	47 (26.1)	.163
Delusions (n = 135/179)	36 (26.7)	28 (15.6)	.016
Hallucinations	37 (27.4)	32 (17.8)	.041

Note: OBS-Scale, Organic Brain Syndrome Scale.

Delirium among demented more often had a fluctuating course during the day and was more common in the evening and at night.

J Geriatr Psychiatr Neurol 2007; 20(3): 166-171

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«Delirium should be considered in any confused hospitalized patients and in high-risk patients with confusion in any setting. When in doubt, it is always better to rule out delirium first than to attribute confusion to an underlying chronic disorder, such as dementia, and fail to recognize the presence of delirium»

Marcantonio et al, Ann Intern Med 2011

Diagnosis

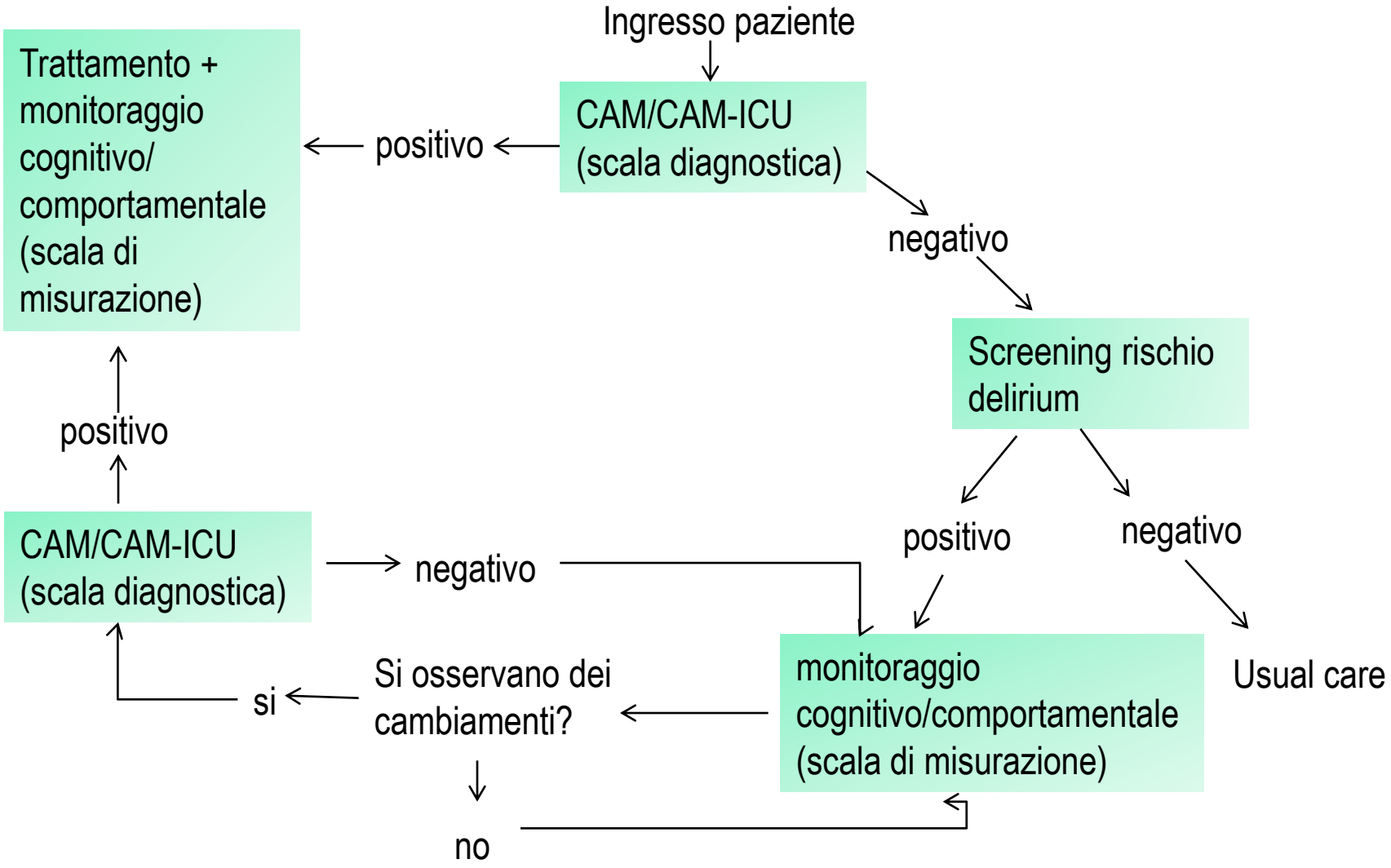
Review: Several bedside instruments are accurate for diagnosing delirium in hospitalized patients

Wong CL, Holroyd-Leduc J, Simel DL, Straus SE. Does this patient have delirium? Value of bedside instruments. JAMA. 2010;304:779-86.

Clinicians should be vigilant about evaluating both at-risk individuals and those with mental status changes. What if we could make documenting an assessment for delirium as routine as vital signs, or as familiar as examining the heart and lungs?

Ann Intern Med 2011; 154(2)

Ipotesi Algoritmo Rilevazione Delirium



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Conclusioni

- La diagnosi del delirium rimane una diagnosi clinica
- Gli strumenti standardizzati favoriscono la comunicazione e la condivisione delle informazioni
- Gli strumenti diagnostici migliorano la capacità di osservazione e l'accuratezza diagnostica

Conclusioni

- Attualmente, la CAM è lo strumento con maggiori evidenze scientifiche.
- Strumenti diversi per setting diversi
- Strumenti diversi per scopi diversi
- Congiunzione di più strumenti con scopi diversi (rischio, diagnosi, monitoraggio) → possibilità di individuare il problema in un numero maggiore di casi e monitorare la remissione dei sintomi

Problemi aperti e future directions

- Individuazione del rischio di delirium in setting/popolazione specifiche
- Necessità di strumenti capaci di distinguere delirium, demenza e delirium sovraimposto a demenza
- Necessità di strumenti di rilevazione rivolti all'identificazioni dei disturbi in pazienti marcatamente assonnati o con ridotto stato di coscienza, non in grado di andare incontro ad una valutazione formale