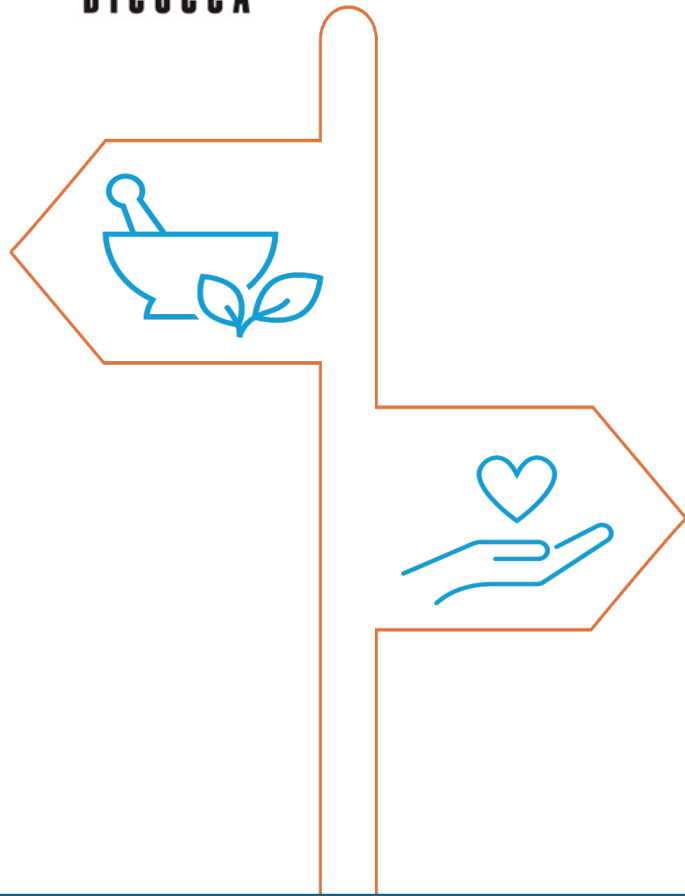


Corso di aggiornamento

Il delirium in RSA



Maria Cristina Ferrara

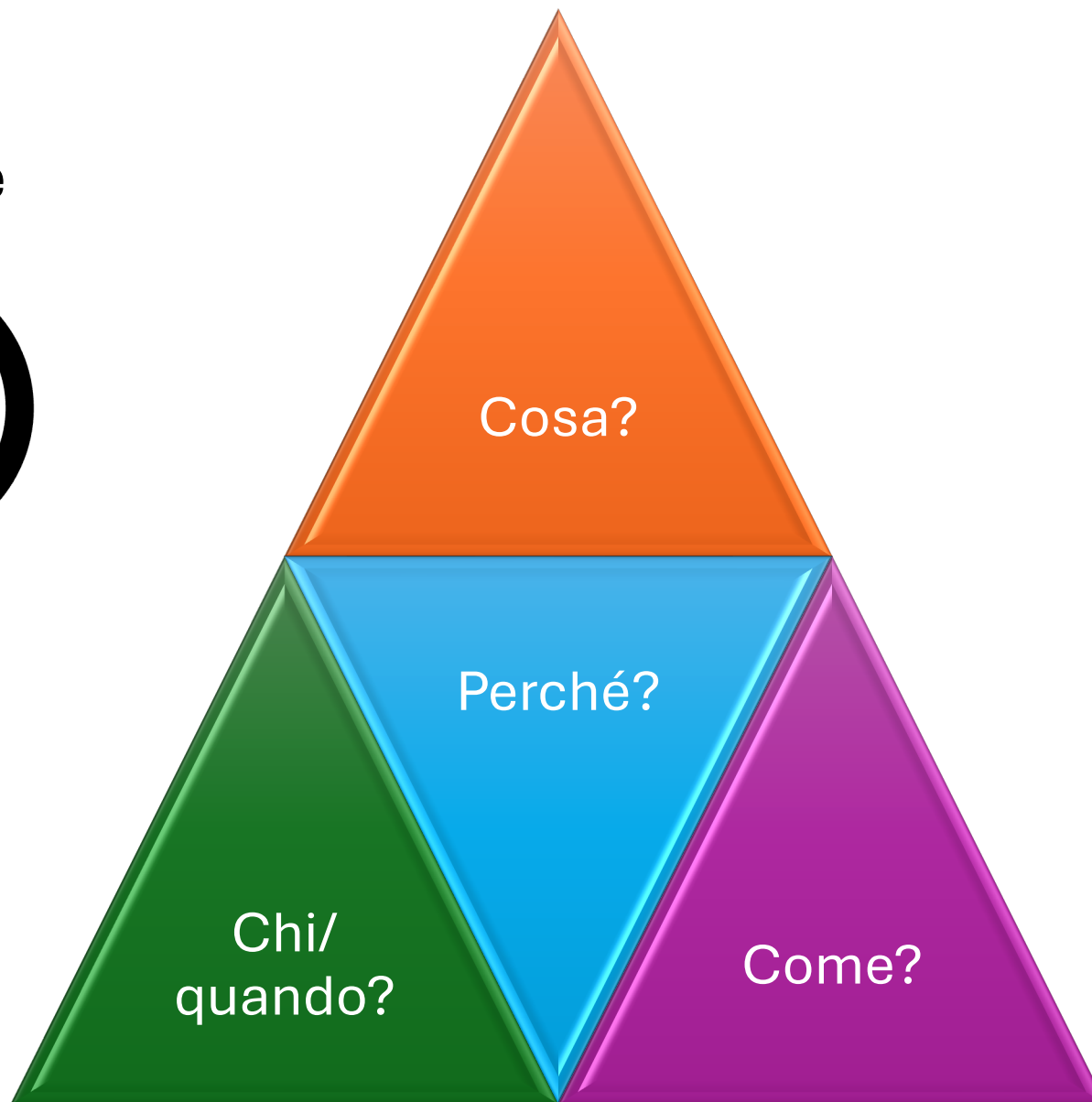
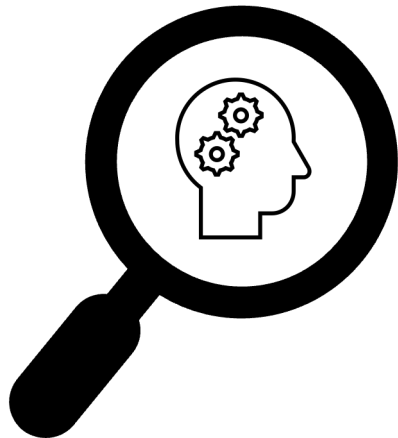
Medico Specialista in Geriatria

Dottorando in Sanità Pubblica

Università degli Studi di Milano-Bicocca

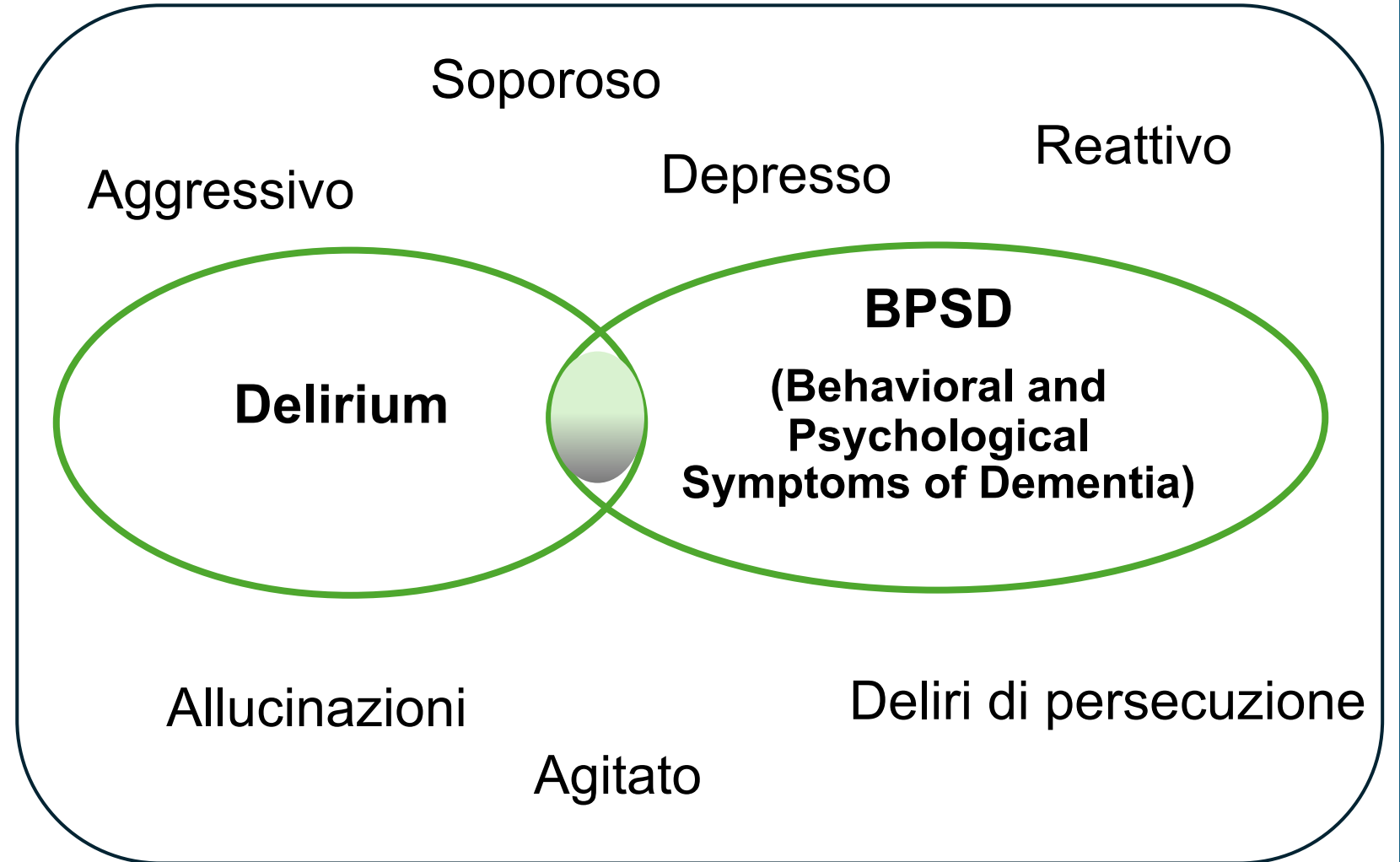


Outline



1

Cosa?





Delirium = un disturbo dell'attenzione e della consapevolezza che si **sviluppa acutamente e tende a fluttuare**, in cui coesiste un altro deficit cognitivo, e **che sottende condizioni mediche acute sottostanti**



Ridotta capacità di dirigere, focalizzare, sostenere e spostare **l'attenzione**; ridotto **orientamento** nell'ambiente



Si sviluppa in un breve periodo di tempo (**ore o pochi giorni**); rappresenta un **cambiamento** rispetto al baseline; tende a **fluttuare** in gravità nel corso della giornata



Coesiste un altro deficit cognitivo (memoria, linguaggio, abilità visuospaziali o percezione)

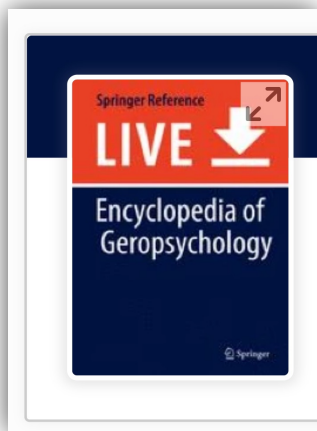


I disturbi **non sono meglio spiegati** da un disturbo neurocognitivo **preesistente**, nè si verificano nel contesto di uno stato di **coma**



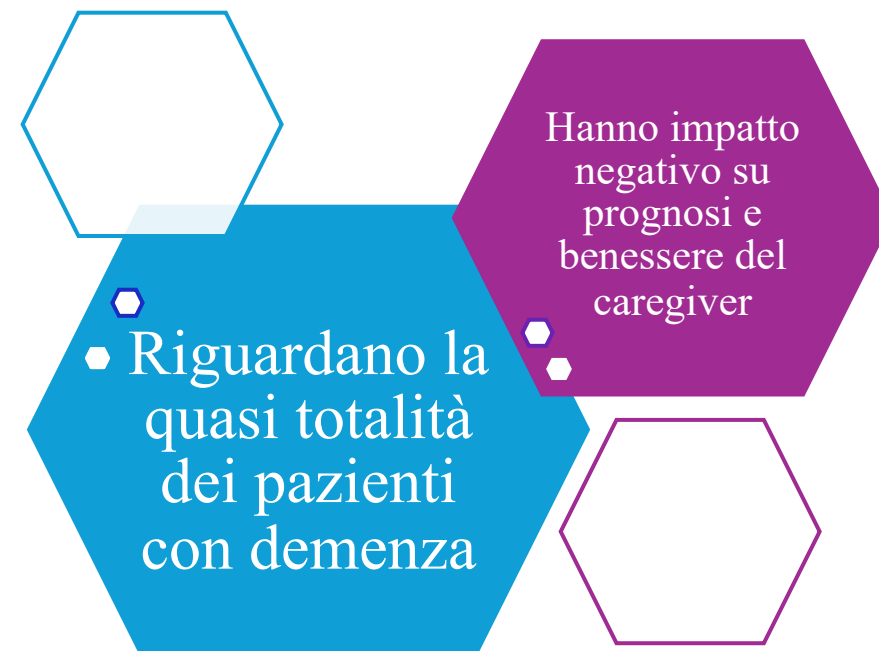
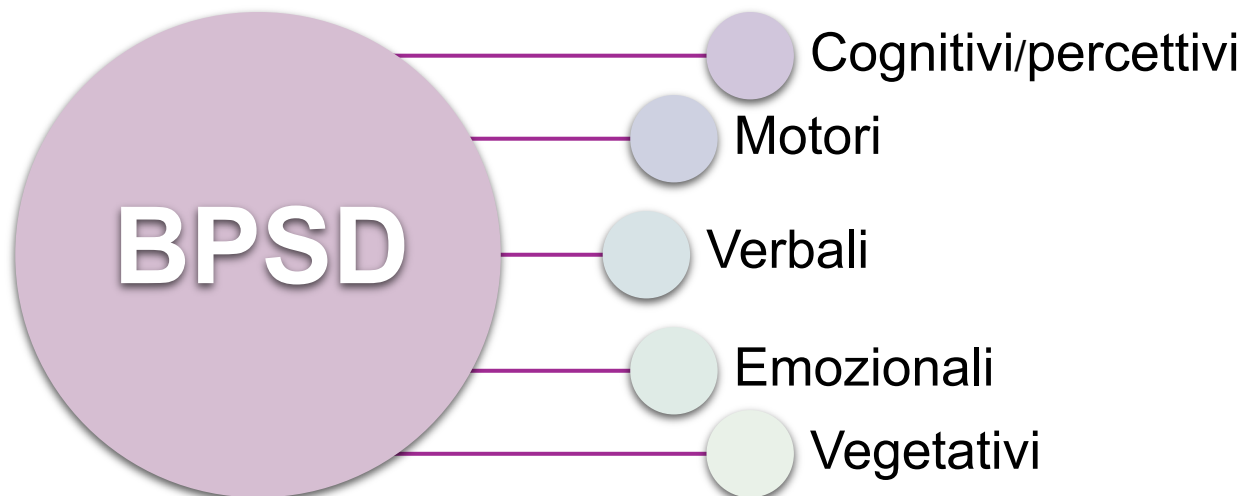
Evidenza **anamnestica, di esame obiettivo o di laboratorio** che è **conseguenza fisiologica diretta** di un'altra condizione **medica** o è dovuto a molteplici **eziologie**

Ha un **impatto negativo** su **prognosi del paziente e benessere dei caregivers**



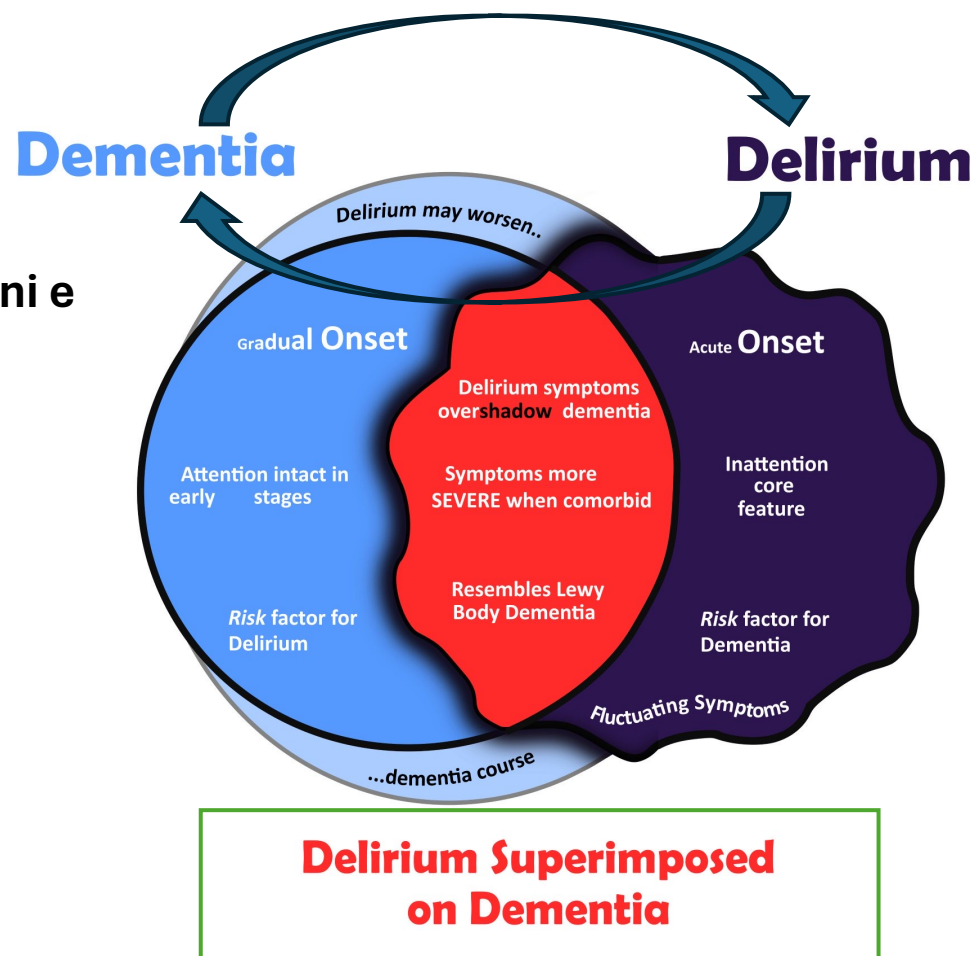
BPSD = **gamma di disturbi neuropsichiatrici**, come agitazione, aggressività, depressione, apatia, dispercezioni, che vengono inquadrati nel contesto di una demenza

The term "Behavioral and Psychological Symptoms of Dementia" (BPSD) was coined in 1999,



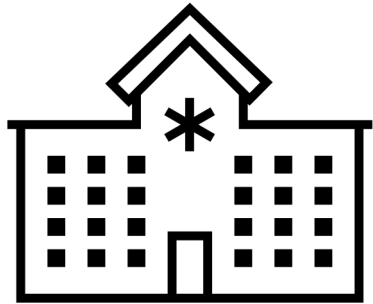
Delirium ≠ demenza

Il delirium è un'entità nosologica distinta dalla demenza, e richiede indagini e trattamenti specifici



Delirium e demenza stanno in una relazione bidirezionale

Baseline cognitivo



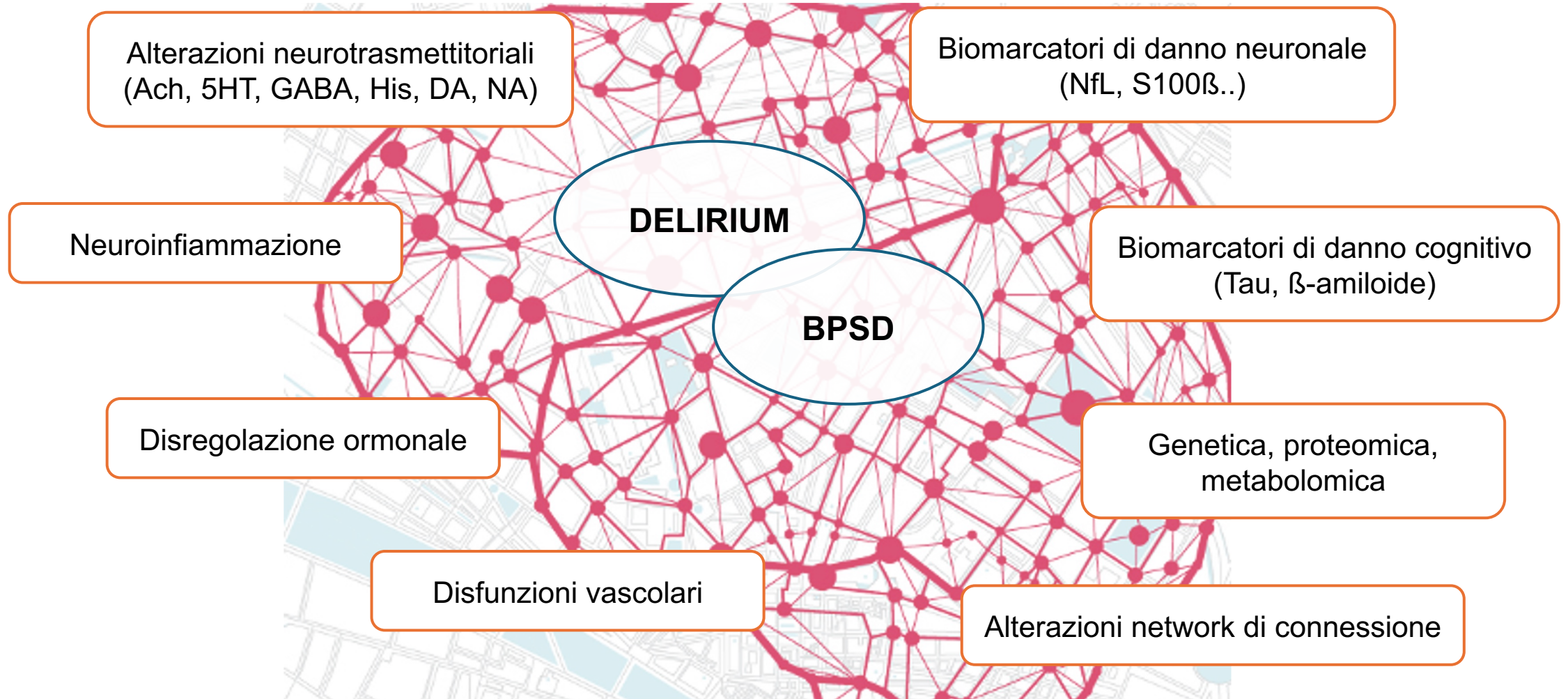
**Professionista
sanitario**

Familiare



**Persona
anziana**

Meccanismi fisiopatologici che riguardano la biologia dell'individuo



+ Fattori ambientali

Behavioral and Psychological Symptoms in Dementia

Nancy Cloak; Yasir Al Khalili.

► [Author Information and Affiliations](#)

Last Update: July 21, 2022.

There is no single etiology for BPSD.

Instead, a **biopsychosocial model** has been proposed that attributes neuropsychiatric symptoms to **interactions between an individual's biology, prior experiences, and current environment.**



First consider acute, life-threatening causes of delirium, including low oxygen level, low blood pressure, low glucose level, and drug intoxication or withdrawal.



Systematically identify and treat potential causes (medications, acute illness, etc), noting that multiple causes are common.



Optimise physiology, management of concurrent conditions, environment (reduce noise), medications, and natural sleep, to promote brain recovery.

2

Chi/
Quando?

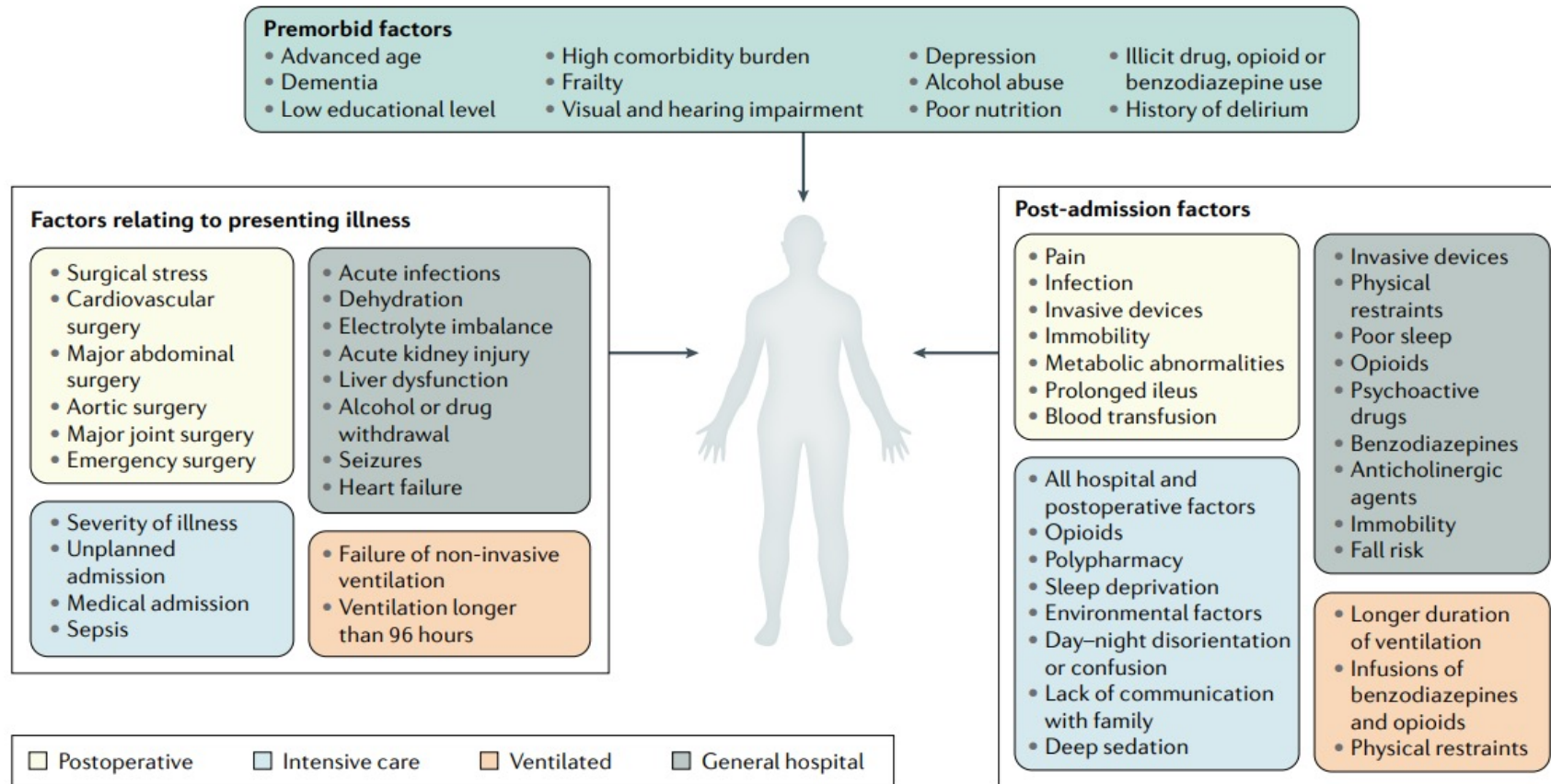


Fig. 1 | Risk factors for delirium. Risk factors for delirium relate to premorbid or predisposing factors (that is, a patient's characteristics) and to precipitating factors, which are factors relating to the presenting illness or that occur after hospital or intensive care unit admission.

✉e-mail: jo.e.wilson@vumc.org

<https://doi.org/10.1038/s41572-020-00223-4>

Original Investigation | Neurology

Predisposing and Precipitating Factors Associated With Delirium A Systematic Review

Cora H. Ormseth, MD; Sara C. LaHue, MD; Mark A. Oldham, MD; S. Andrew Josephson, MD; Evans Whitaker, MD; Vanja C. Douglas, MD

I fattori **predisponenti** sono stati definiti come **qualsiasi caratteristica del paziente che fosse più prevalente tra i soggetti pazienti con delirium** (con un valore $P < 0,05$ all'analisi multivariata) e che ha **preceduto l'esordio di delirium di almeno 1 mese**

JAMA Network Open. 2023;6(1):e2249950.
doi:10.1001/jamanetworkopen.2022.49950

Key Points

Question What predisposing and precipitating factors are associated with delirium?

Findings In this systematic review of 315 studies of delirium representing 101 144 patients across all settings and populations, 33 predisposing and 112 precipitating factors were associated with delirium. Putative pathophysiological mechanisms associated with these factors were heterogeneous.

Meaning This study found physiological heterogeneity represented across studies, suggesting that delirium may not be not restricted to a singular physiological account.

Fattori predisponenti

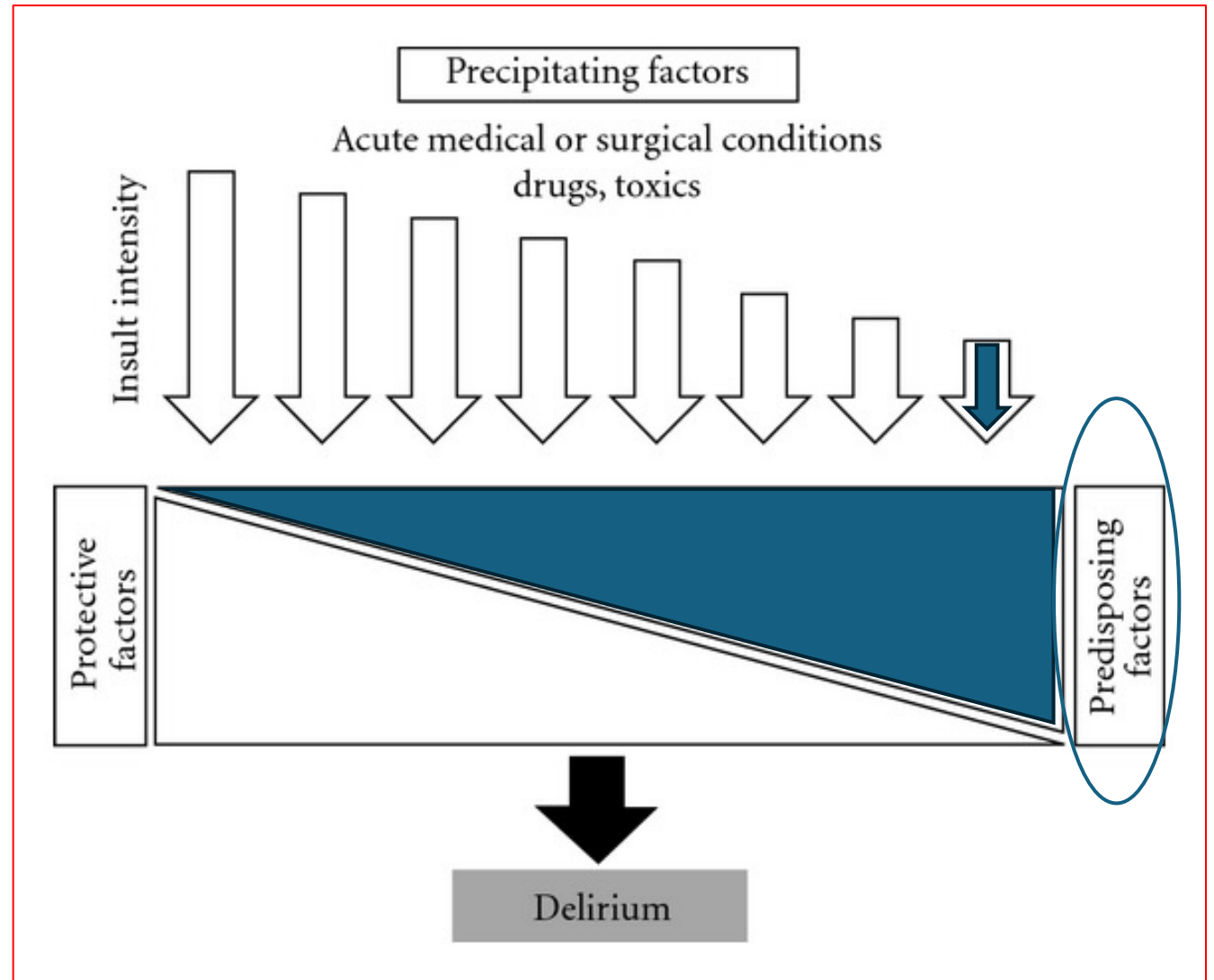


Table 2. The 33 Predisposing Factors Associated With Delirium

Predisposing factor	No.		
	Studies	Total participants	Participants with delirium
Advanced age	112	50 418	9147
Cognitive impairment ^a or dementia	130	42 124	9617
Functional impairment (physical, vision, hearing, or frailty)	48	17 206	3679
Cardiovascular disease ^b	18	11 895	1422
Cumulative comorbidities ^c	26	10 528	2035
Central nervous system disorder ^d	24	9246	1861
Alcohol use	12	8100	1462
Male sex	15	4696	1112
Depression	19	4362	926
Lower educational attainment	8	3657	648
Malnutrition or undernutrition	9	2921	614
Diabetes	6	2775	1905
Tobacco use	7	2605	467
Anemia	5	2538	292
Psychiatric disorder or trait ^e	7	2138	326
Female sex	4	2134	636
Multiple medications	6	1287	323
Psychoactive medication	3	1074	177
Malignant neoplasm	2	846	188
Pain (chronic)	2	774	146
Pulmonary disease (OSA or COPD)	4	685	163
Poor sleep quality	4	655	154
Chronic kidney disease	1	560	63
Non-English language	1	532	241
Narcotic analgesic	1	500	57
White race	1	309	239
Low vitamin D	1	240	60
Anticholinergic	1	74	29
Biomarkers and genetics			
Biomarkers of neurodegeneration ^f	7	1114	237
SNVs in <i>DRD2</i> and <i>SLC6A3</i> gene	1	720	126
<i>APOE4</i>	2	169	76
AG haplotype of <i>GRIN3A</i> gene	1	102	41
COMT Val ¹²⁷ or Val ¹²⁷ genotype	1	89	17

Abbreviations: AG, adenine guanine; *APOE4*, apolipoprotein E4; COMT, catechol-O-methyltransferase; COPD, chronic obstructive pulmonary disease; *DRD2*, dopamine receptor 2 gene; *GRIN3A*, N-methyl-D-aspartate receptor 3A subunit gene; OSA, obstructive sleep apnea; *SLC6A3*, dopamine transporter gene on the 5p15.3 chromosome; SNV, single-nucleotide variation (formerly single-nucleotide polymorphism [SNP]); Val, valine.

^a Cognitive impairment was measured by Mini-mental State Examination, Telephone Interview for Cognitive Status, Mini-Cog, Montreal Cognitive Assessment, auditory verbal learning test, Trail Making Test, or Short Portable Mental Status Questionnaire.

^b Heart failure, mitral valve disease, cardiothoracic index, European System for Cardiac Operative Risk Evaluation score, American College of Cardiology and American Heart Association guidelines, atrial fibrillation, peripheral arterial disease, history of major amputation, coronary artery disease, atherosclerosis, and hypertension.

^c Measured by Cumulative Illness Rating Scale, American Society of Anesthesiologists class, Charlson Comorbidity Index, or National Surgical Quality Improvement Program Risk of Serious Complications.

^d Broadly defined, stroke, Parkinson disease, previous episode of delirium, and olfactory impairment.

^e Broadly defined, anxiety, neuroticism, and low conscientiousness.

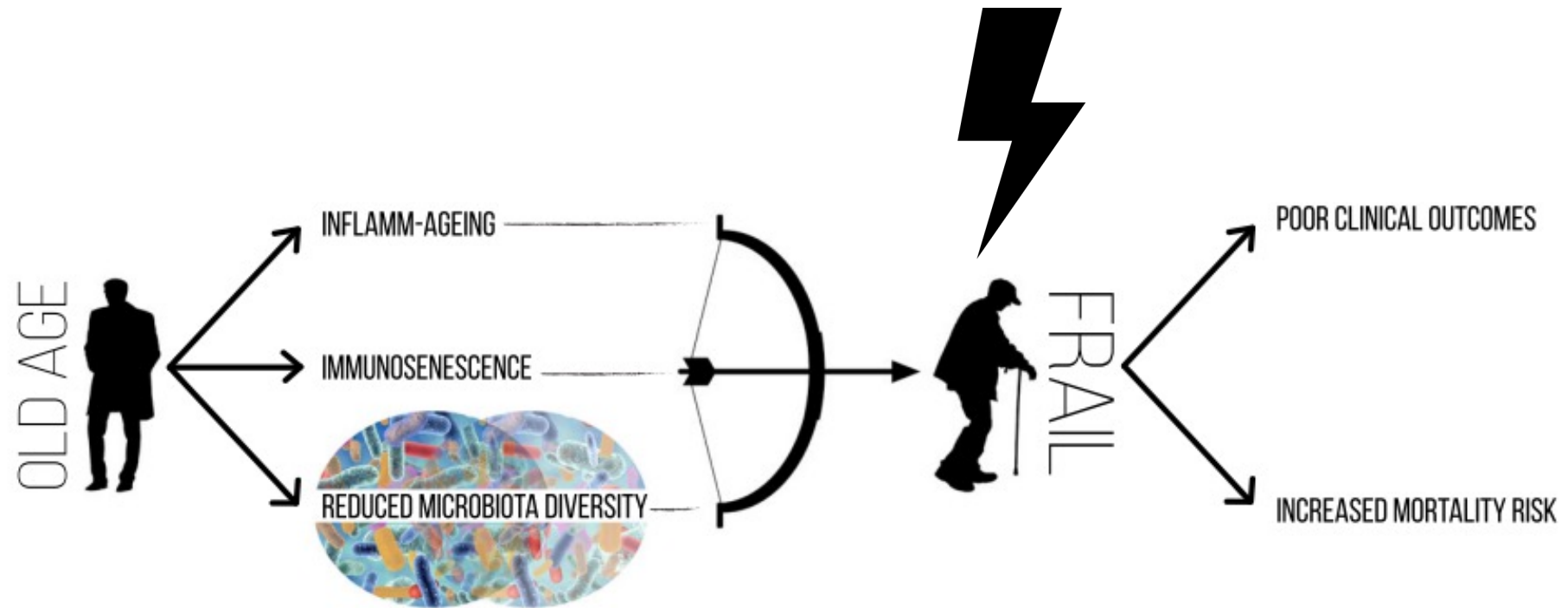
^f Amyloid- β 1-42 levels in cerebrospinal fluid, diffusion tensor imaging abnormalities, white matter abnormalities, reduction in gray matter volume, and thinner cortex.



- **Età**
- **Deterioramento cognitivo**
- **Deprivazione sensoriale (visiva e/o uditiva)**
- **Malnutrizione**
- **Disidratazione**
- **Severità di una malattia acuta**
- **Fragilità**

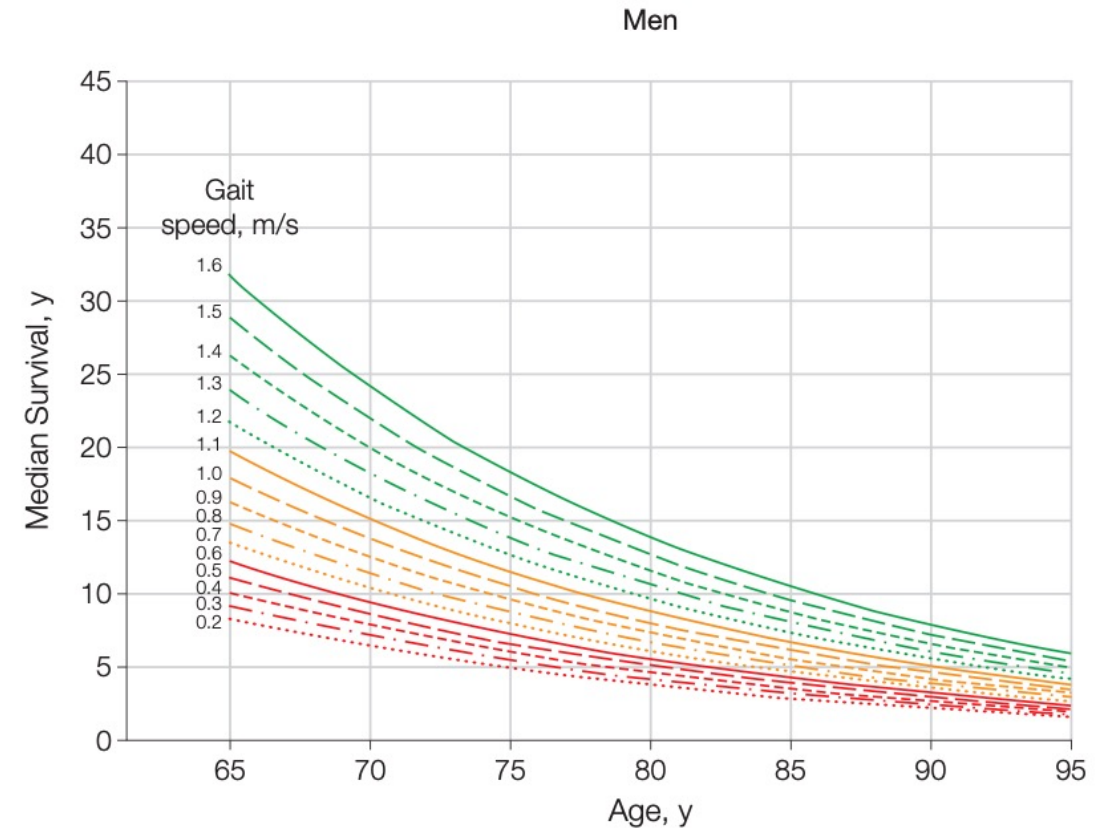
Inouye SK, Westendorp RG, Saczynski JS. Delirium in elderly people. *Lancet*. 2014;383(9920):911-922. doi:10.1016/S0140-6736(13)60688-1

Eterogeneità del fenomeno «invecchiamento»



Modificato da: Hussien et al. BMC Geriatrics (2021) 21:389

Eterogeneità del fenomeno «invecchiamento»



Studenski S, JAMA 2011

Eterogeneità del fenomeno «invecchiamento»



CLINICAL FRAILTY SCALE

	1	VERY FIT	People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
	2	FIT	People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.
	3	MANAGING WELL	People whose medical problems are well controlled, even if occasionally symptomatic, but often are not regularly active beyond routine walking.
	4	LIVING WITH VERY MILD FRAILTY	Previously "vulnerable," this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities . A common complaint is being "slowed up" and/or being tired during the day.
	5	LIVING WITH MILD FRAILTY	People who often have more evident slowing , and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

	6	LIVING WITH MODERATE FRAILTY	People who need help with all outside activities and with keeping house . Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.
	7	LIVING WITH SEVERE FRAILTY	Completely dependent for personal care , from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
	8	LIVING WITH VERY SEVERE FRAILTY	Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.
	9	TERMINALLY ILL	Approaching the end of life. This category applies to people with a life expectancy <6 months , who are not otherwise living with severe frailty . (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

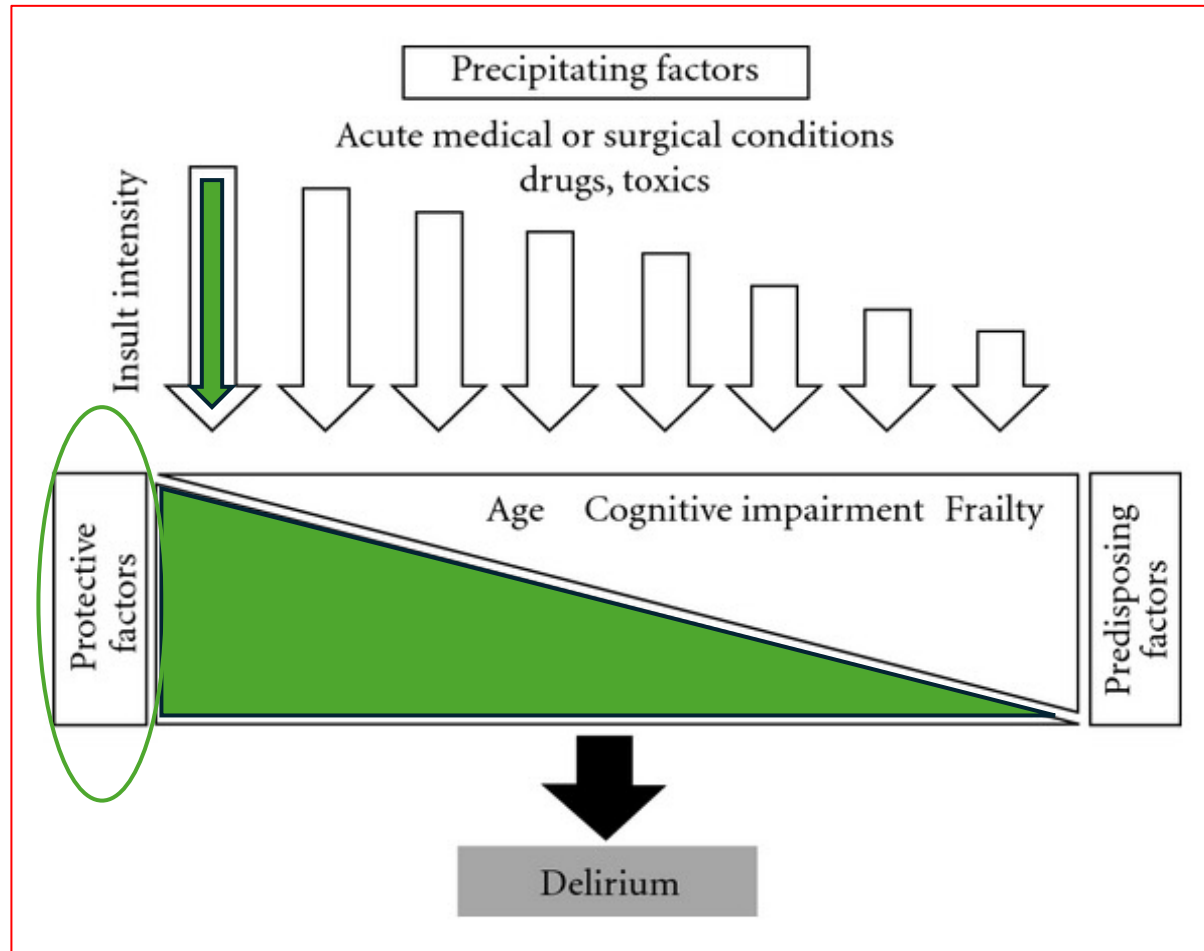
The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

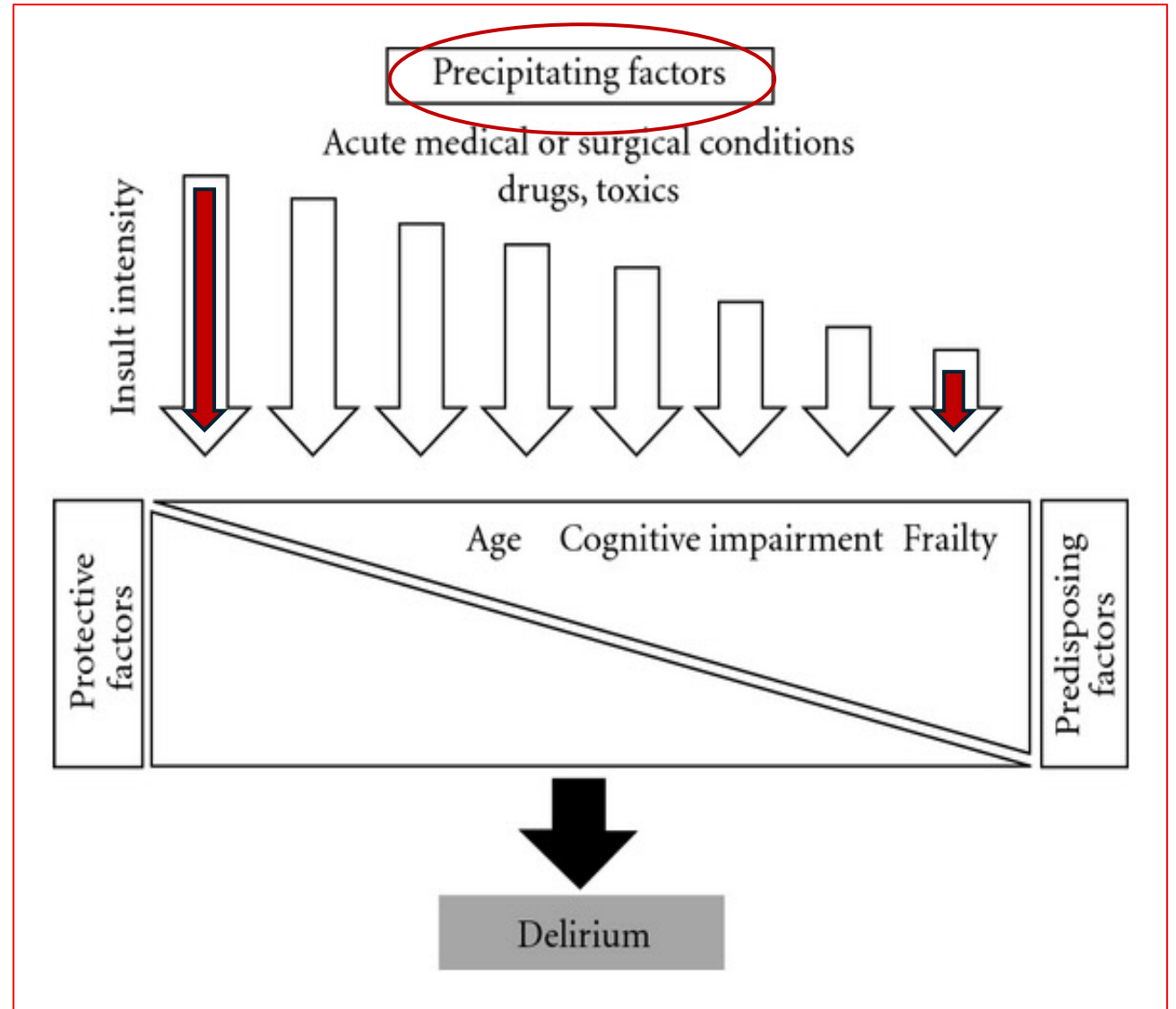
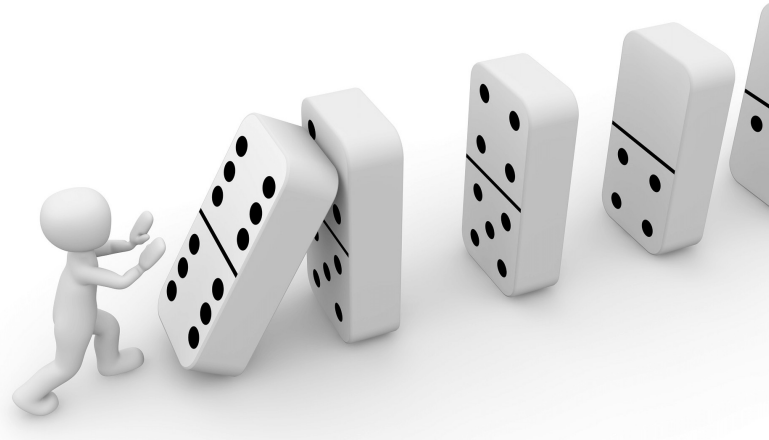
In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

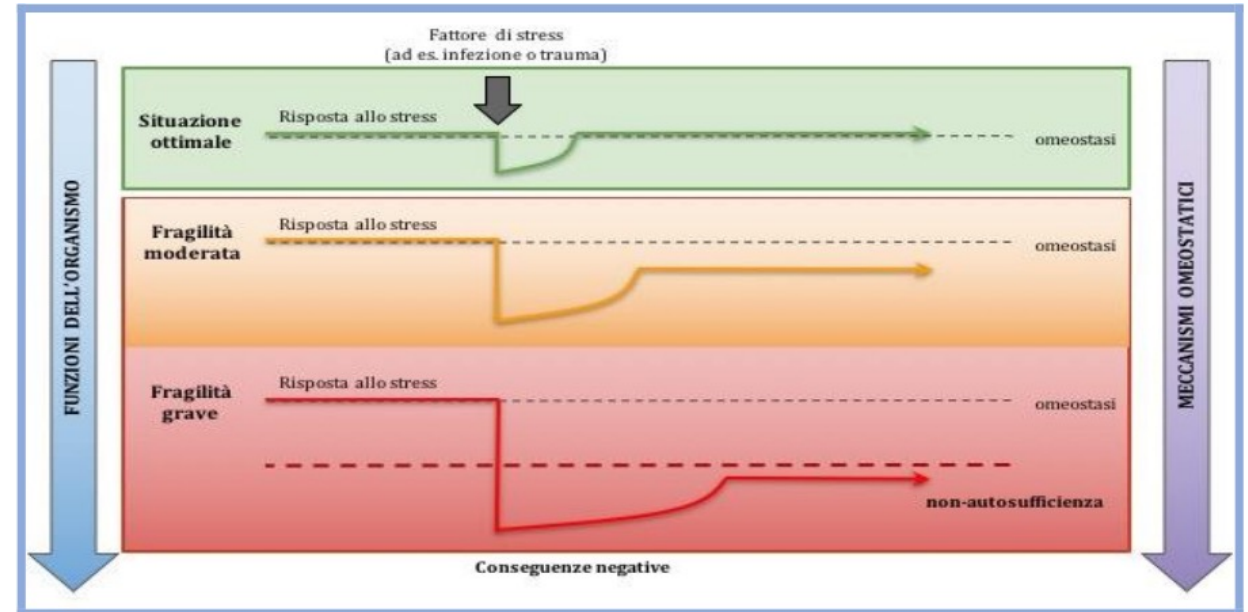
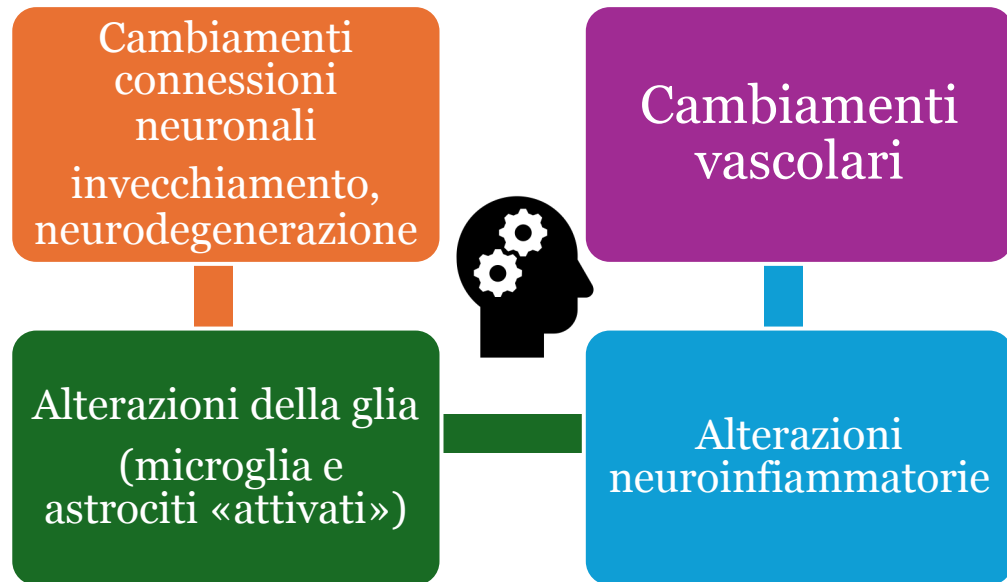
Fattori protettivi



Fattori precipitanti



Negli individui ad alto rischio (ad esempio anziani fragili), il delirium rappresenta **l'incapacità del cervello vulnerabile a mostrare resilienza in risposta ad uno stress acuto.**



Delirium, il **sesto segno vitale** negli anziani...

Il **delirium** costituisce una delle **principali manifestazioni d'esordio** di svariate **acuzie cliniche**.

Negli anni '80, Lipowski evidenziò il ruolo chiave dello stato confusionale acuto in geriatria, ravvisando in esso “**un segnale molto più comune dell'insorgenza di malattie fisiche in una persona anziana, rispetto, ad esempio, alla febbre, al dolore o alla tachicardia** [...] Soprattutto i più anziani sono particolarmente inclini al delirium come conseguenza di quasi tutte le malattie fisiche o di intossicazione da farmaci, anche se a dosi terapeutiche ed abitualmente usati [...]

L'incapacità di diagnosticare il delirium e di identificare e trattare le sue cause sottostanti può avere conseguenze letali per il paziente, poiché potrebbe essere il sintomo principale di un infarto del miocardio, di una polmonite o di qualche altra condizione clinica pericolosa per la vita". (JAMA 1987; 258:1789-1792)

Delirium, il sesto segno vitale negli anziani...

Vol. 67: ISSUE 3 - SEPTEMBER 2019

Clinical Observations in Geriatrics - Clinical
Experiences and Case Reports

Published: 2019-09-15



PDF



How the systematic detection of delirium may help physicians avoid a misdiagnosis of acute myocardial infarction: two case reports

M.C. Ferraraⁱ F. Massarielloⁱ G. Annoniⁱ G. Bellelliⁱ

Delirium Myocardial infarction Underdetection Older

Abstract

A 93-year-old female and an 81-year-old female presented to the Emergency Department (ED) with hypoactive delirium. In both cases, a quite common delirium-precipitating factor was initially thought to be found by the ED physicians. However, a proactive searching for all medical reasons potentially underlying delirium enabled the physicians of our Acute Geriatric Unit to unveil a diagnosis of acute myocardial infarction. These cases illustrate the complexity of detecting delirium and its etiology, especially in frail patients. We suggest that a systematic diagnostic workup should be performed in all patients presenting with delirium, including an EKG and enzymes measurement even in the absence of typical cardiovascular symptoms.

≡ INDEX

📄 DETAILS

📊 STATISTICS

- 1 Abstract
- 2 INTRODUCTION
 - 1 CASE PRESENTATION N°1
 - 2 CASE PRESENTATION N°2
- 3 DISCUSSION
- 4 References

Original Investigation | Neurology**Predisposing and Precipitating Factors Associated With Delirium
A Systematic Review**

Cora H. Ormseth, MD; Sara C. LaHue, MD; Mark A. Oldham, MD; S. Andrew Josephson, MD; Evans Whitaker, MD; Vanja C. Douglas, MD

I fattori **precipitanti** sono stati definiti come **qualsiasi evento accaduto nel mese precedente l'esordio del delirium, solitamente di natura acuta o subacuta, e più prevalente tra i pazienti con delirium**, con un valore $P < 0,05$ all'analisi multivariata.

JAMA Network Open. 2023;6(1):e2249950.
doi:10.1001/jamanetworkopen.2022.49950**Key Points**

Question What predisposing and precipitating factors are associated with delirium?

Findings In this systematic review of 315 studies of delirium representing 101 144 patients across all settings and populations, 33 predisposing and 112 precipitating factors were associated with delirium. Putative pathophysiological mechanisms associated with these factors were heterogeneous.

Meaning This study found physiological heterogeneity represented across studies, suggesting that delirium may not be not restricted to a singular physiological account.

Table 3. The 112 Precipitating Factors Associated With Delirium

	No.		
Precipitating factor	Studies	Total participants	Participants with delirium
Surgical factor			
Type of surgery ^a	23	15 864	2133
Intraoperative blood loss or transfusion	12	11 171	1250
Intraoperative hemodynamics	5	6684	442
Duration of operation	16	6172	1521
Postoperative complication, atrial fibrillation, or shock	6	3117	410
Prolonged time to operation	7	2457	816
Anesthesia type and depth ^b	4	772	179
No. of surgeries	3	610	125
Intraoperative fluids	2	295	138
Systemic illness or organ dysfunction			
Neurological injury	14	11 130	1917
Anemia	12	9965	856
Organ dysfunction or high illness severity ^c	25	7697	1863
Infection	13	7587	1994
Mechanical ventilation	14	7281	1468
Kidney injury	14	7047	1545
Pain	14	6259	1349
Hypoxemia	12	5085	2103
Leukocytosis	7	3307	641
Fever or hypothermia	8	3181	999
Stroke ^d	8	2653	519
Respiratory disease ^e	6	2164	593
Liver dysfunction	6	2118	477
Hypotension	4	1557	347
Tachypnea	2	851	170
Stress, anxiety, or depression	2	754	86
High thyroid-stimulating hormone level	1	568	82
Dehydration	1	566	566
Urinary retention	1	314	86
Thrombocytopenia	2	240	126
Cardiac arrest or cardiogenic shock	1	212	12
Unsafe swallow (on admission)	1	82	23
Hyperoxia ^f	1	65	19

Metabolic abnormality			
Glucose level	3	6704	403
Albumin level	10	6260	1120
Electrolyte imbalance	3	2333	251
Metabolic acidosis	2	1618	247
Metabolic disturbance or disorder	3	1457	868
Sodium level	3	1065	193
Calcium level	1	818	90
Hyperamylasemia	1	818	90
Potassium level	2	365	72
Fluid level	2	270	52
Magnesium level	1	90	49

(continued)

Table 3. The 112 Precipitating Factors Associated With Delirium (continued)

	No.		
Precipitating factor	Studies	Total participants	Participants with delirium
Pharmacology			
Benzodiazepine	11	5145	1078
Opioid	14	4.215	774
Sedative or analgesic	10	3295	1551
Neuroleptic	5	3032	688
Anticholinergic	4	2225	756
Multiple medications	4	1077	149
Patient-controlled analgesia	1	915	104
Statin discontinuation	1	763	588
Mannitol	1	618	131
Psychoactive drug	2	419	138
Steroid	2	391	125
Nicotine withdrawal	1	293	210
Acetylcholinesterase inhibitor	1	251	125
Nonsteroidal anti-inflammatory drug	1	80	36
Iatrogenic and environmental factor			
Urinary catheter	10	3812	1214
Physical restraint	11	2841	805
Longer length of stay	9	2724	461
ICU admission	4	1564	264
Neurosurgical drainage tube	1	800	157
Sleep disturbance	5	749	271
Fall	2	743	383
Bed or ward change	2	710	108
Immobilization	1	612	68
Gastric tube	1	320	92
Administration of therapy during night hours	1	203	35
Any iatrogenic event	1	196	35
Trauma ⁹	5	1282	269

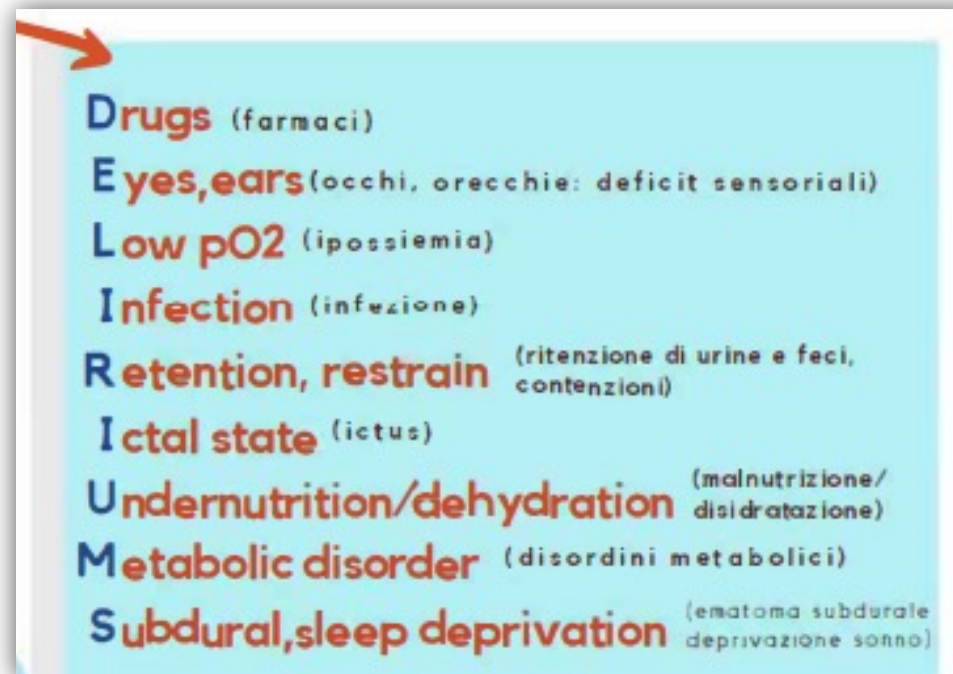
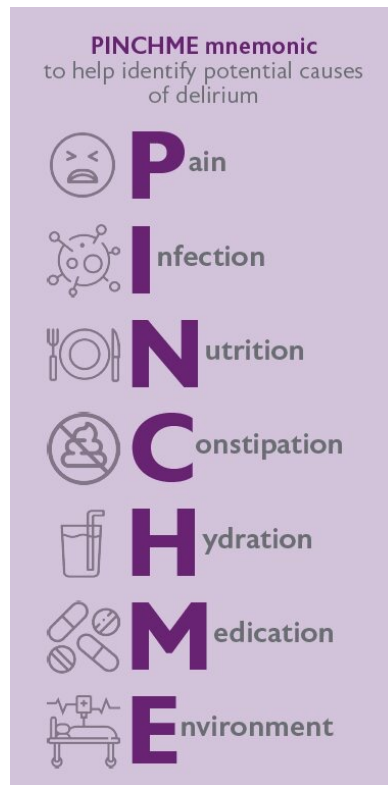
Biomarker			
High CRP level	13	4321	1163
High IL-6 level	7	1229	654
High neopterin level	5	672	274
High NT-proBNP level	1	635	73
High IL-8 level	3	604	435
High S100B level	3	575	541
High cortisol level	4	527	208
Low ubiquitin C-terminal hydrolase level	1	427	327
Low cerebral oxygen saturation	3	395	98
High micro-RNA-210 level	1	370	63
Low IGF-1 level	3	326	71
High TNF- α level	1	321	321
High IL-10 level	1	321	321
Higher CSF p-tau level	1	214	57
Change in exosomal α -synuclein	1	202	17
High procalcitonin level	1	149	30
Endothelial dysfunction	1	147	103
High CSF sTREM2 level	1	146	65

(continued)

Putative pathophysiological mechanism
<u>Exposure to neurologically active medication or substance</u>
<u>Hypoperfusion</u>
Neuronal injury
<u>Systemic inflammation and neuroinflammation</u>
Hypoxia or hypercarbia
Glucose extremes
Uremia, impaired clearance of neurologically active medications or substances. or both
Electrolyte disturbances
<u>Pain and/or sleep or circadian rhythm disruption</u>
<u>Immobilization</u>
Malnutrition/cofactor deficiency
Temperature extremes
Withdrawal from neurologically active medications/substances
Hyperadrenergic state
Likely epiphenomenal variables representing presence of one or more of the above mechanisms, association with one or more predisposing factors, or found due to confounding

La natura del delirium è per eccellenza **multifattoriale**,
perché è il risultato dell'interazione tra fattori predisponenti e precipitanti!

«SE HAI TROVATO SOLO UNA CAUSA DI DELIRIUM E' PERCHE' NON
HAI CERCATO LE ALTRE!»



Environment (ambiente)

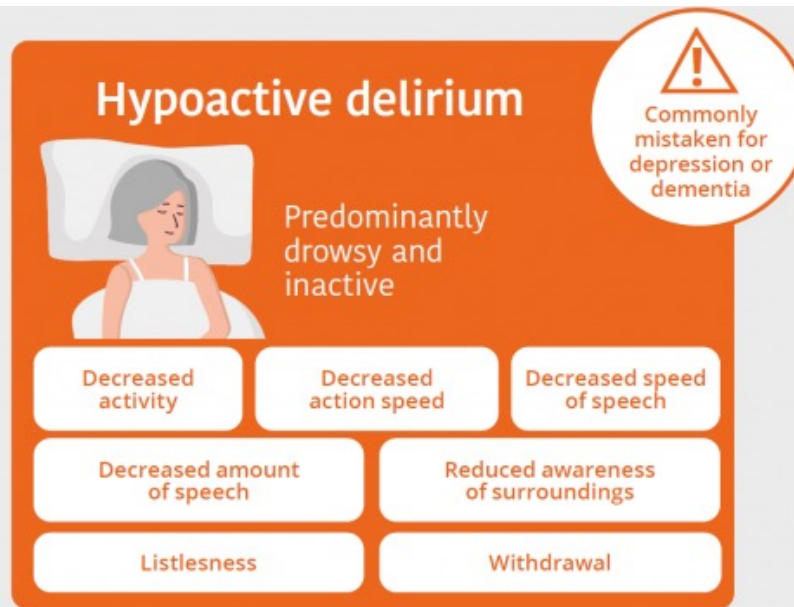
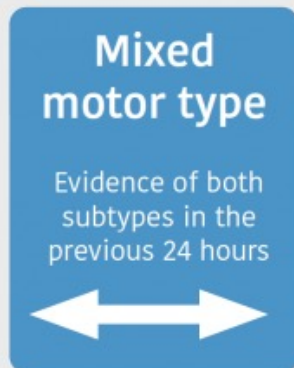
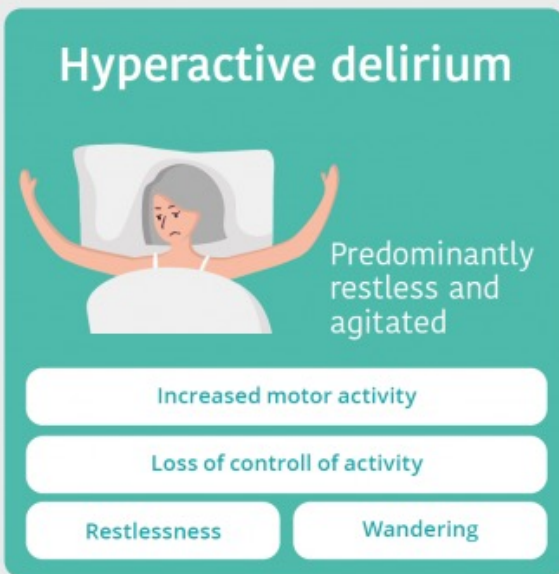
Ischemia (infarto)

Le linee guida internazionali sui disturbi del comportamento nella demenza (BPSD) raccomandano per prima cosa di **escludere la presenza di delirium**, e se non è possibile escluderla, **trattare il delirium per primo**, perché può sottendere cause severe!



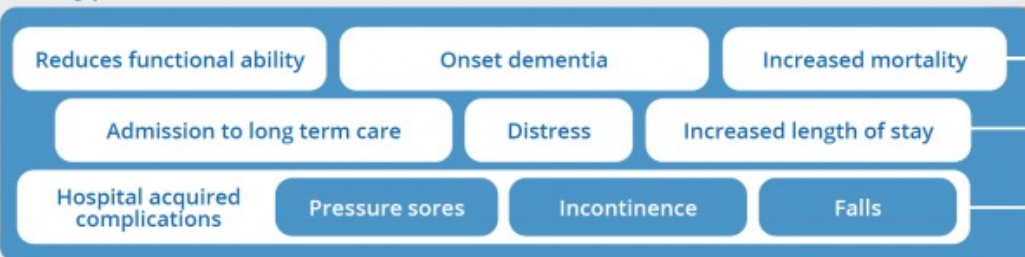
3

Come?



Adverse consequences

All types of delirium



Hypoactive delirium



mRASS

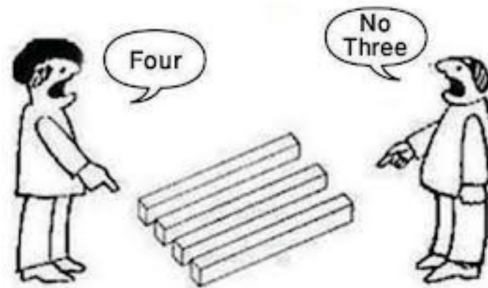
Delirium	4	Combative: Overtly combative, violent, danger to staff
	3	Very Agitated: Pulls or removes tubes or catheters, aggressive
	2	Agitated: Frequent, non-purposeful movement
	1	Restless: Anxious but movements not aggressive
	0	Alert and calm
	-1	Drowsy: Responds to voice and can make eye contact for >10 seconds
Stupor	-2	Light Sedation: Responds to voice, but can only make eye contact for <10 seconds
	-3	Moderate Sedation: Responds to voice, but does not make eye contact
	-4	Deep Sedation: No response to voice, but responds to physical stimulation
Coma	-5	Unarousable: No response to voice or physical stimulation

Perché misurare il delirium?

L'intuizione non basta:

ad una valutazione «occhiometrica» la stessa situazione può apparire differente a due operatori

It is really confusing!!!



«Oggi sono tutti in delirium qui..»

«Non è un pò agitato?»

«A me sembrano solo confusi..»

«Ma no..
era così anche ieri e l'altro ieri..»





«Il tuo paziente è più confuso o soporoso del solito?»



**USARE LA
SCALA
4AT**
www.4at.com

**1. INDIVIDUARE IL
DELIRIUM**

Trattare le cause :tare attenti a uso o
abuso di farmaci, ambiente, dolore,
infezioni, privazione di sonno,
alimentazione e idratazione inadeguate

È breve: solo 4 items e generalmente <2 minuti
(Ideata da A. MacLulich; Tieges et al., 2021)

<https://www.the4at.com/>



Download and use is free, and always will be. No permission is required.

🌟 **New! Free 4AT apps: Android iOS**

 Google Play

[Giochi](#)

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[Bambini](#)







4AT Delirium Assessment Tool

Tactuum

100+
Download

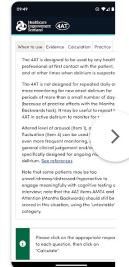
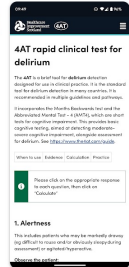
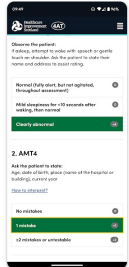
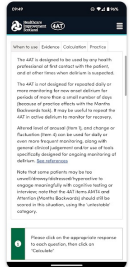
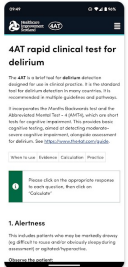
 PEGI 3

Installa

 Condividi

 Aggiungi alla lista desideri

 Non hai alcun dispositivo



Assistenza app

Altri contenuti di Tactuum

 Right Decisions: Health & Care Tactuum

 Emergency Call Handlers Tactuum

<https://www.the4at.com/>



The **4AT** has **4** items, each of which begins with an '**A**':

1. **A**lertness
2. **A**MT4: Abbreviated Mental Test - 4.
3. **A**ttention: Months of the Year Backwards
4. **A**cute change or fluctuating course



RAPID CLINICAL TEST FOR
DELIRIUM

**La scala è
positiva se
punteggio
≥4**

1. Vigilanza/allerta

Normale (completamente vigile, non agitato durante tutta la valutazione)	0
Moderata sonnolenza per meno di 10 secondi dopo il risveglio, poi normale	0
Chiaramente anomalo	4

2. AMT4: età, data di nascita, luogo, anno corrente

0 Nessun errore	0
1 Un errore	1
2 >2 errori / non testabile	2

3. Attenzione: denominare i mesi dell'anno all'indietro

È in grado di ripetere senza errori >7 mesi	0
Inizia ma riporta < 7 mesi/ rifiuta di iniziare	1
Non testabile (non può iniziare perché soporoso o troppo compromesso)	2

4. Cambiamento acuto o decorso fluttuante

No	0
Sì	4

[3] ATTENZIONE

Chiedere al paziente: "per favore, mi dica i mesi dell'anno in ordine contrario, partendo da dicembre"

Per aiutare la comprensione della domanda, è consentito inizialmente questo suggerimento: "qual è il mese prima di dicembre?"

Mesi dell'anno a ritroso

è in grado di ripetere senza errori ≥ 7 mesi

0

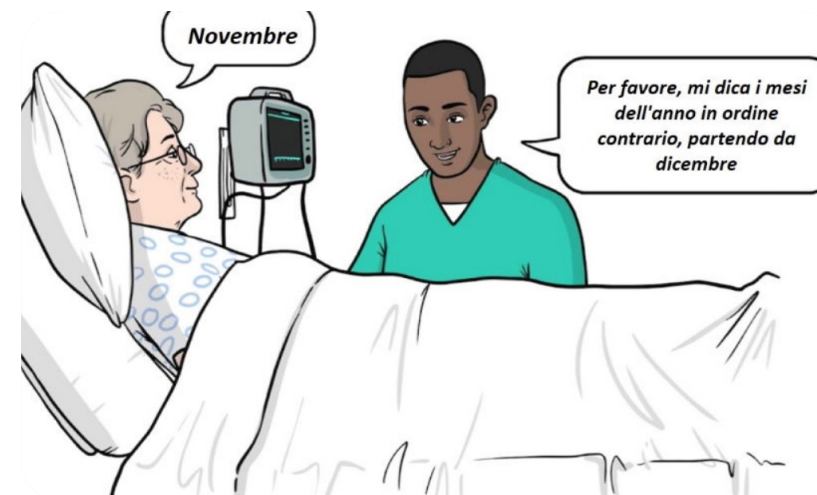
Inizia ma riporta < 7 mesi/ rifiuta di iniziare

1

test non effettuabile (paziente indisposto, assonnato o disattento)

2

- **Mesi dell'anno a ritroso** (incapace di arrivare a Luglio)
- **Giorni della settimana a ritroso** (anormale= qualsiasi errore)
- Countdown da 10 a 0 (anormale=qualsiasi errore)
- **SAVEAHAART**: leggere le lettere lentamente e chiedere al paziente di riconoscere le lettere "A"





Solo due semplici elementi di screening cognitivo

Non necessita di una formazione specifica

Facile da gestire, comprese le persone con disabilità visive o disturbi dell'udito

Non necessita di risposta fisica e consente la valutazione dei pazienti che “non possono essere testati” (quelli che non possono sottoporsi a test o colloqui a causa di grave sonnolenza o agitazione).

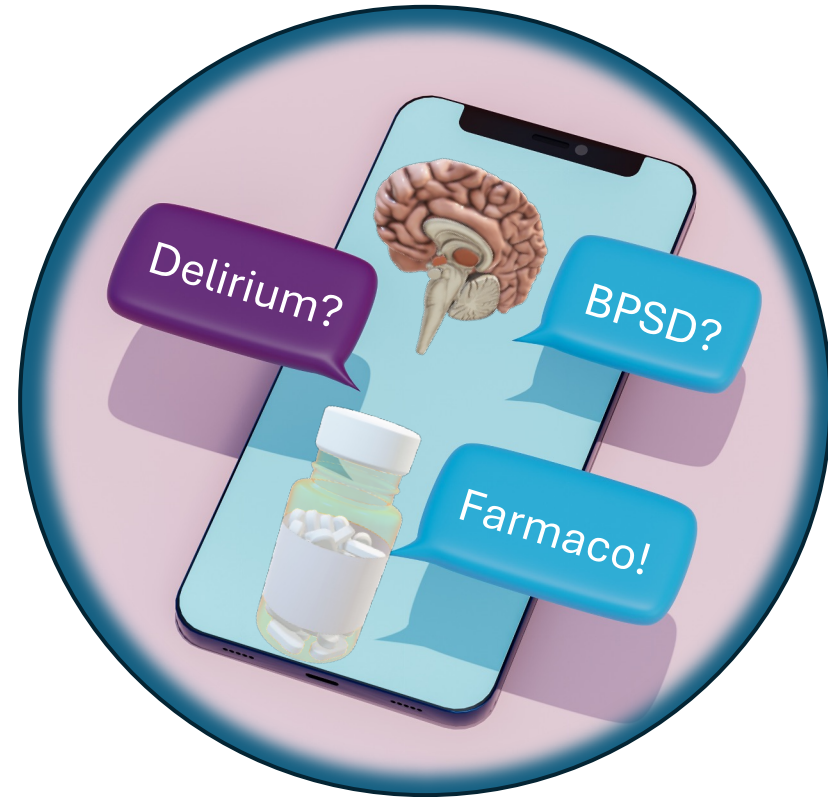
4AT ha sperimentato diversi round pilota ed è stato utilizzato in molti ospedali nel Regno Unito e a livello internazionale.

4AT ha una sensibilità e specificità molto elevate.

E ora, che faccio?



Aloperidolo
Quetiapina
Risperidone
Trazodone ...



Potentially Inappropriate Psychotropic Drugs in Nursing Homes: An Italian Observational Study

Original Research Article | Published: 30 November 2023

Volume 41, pages 187–197, (2024) [Cite this article](#)

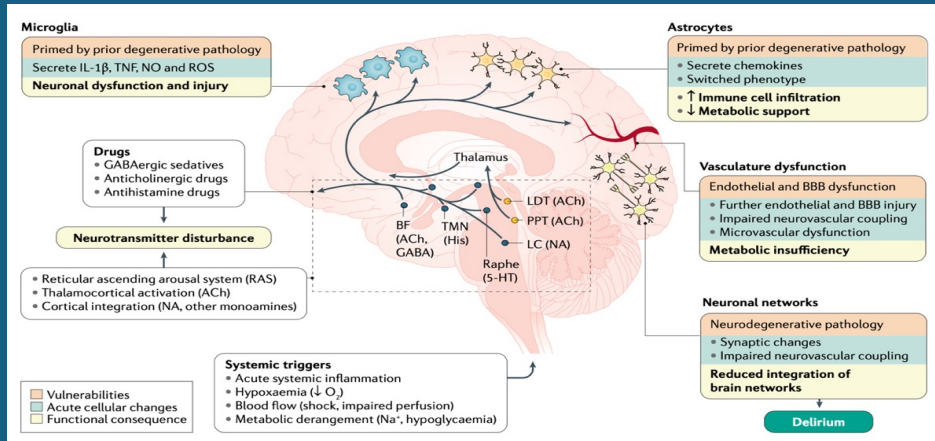
7 pazienti su 10

antipsychotics
antidepressants
anxiolytics/hypnotics

Results

This study involved 2555 residents, of whom 1908 (74.7% of the total) were treated with psychotropic drugs; 186 (7.3% of the total) were exposed to at least one psychotropic drug considered potentially inappropriate according to the FORTA criteria. Analysis using the Beers criteria showed that 1616 residents (63.2% of the total) received at least one psychotropic drug considered potentially inappropriate. In line with the Beers recommendation, patients receiving at least three psychotropic drugs were also included and 440 were identified (17.2% of the total sample). According to the STOPP criteria, 1451 residents (56.8% of the total sample) were prescribed potentially inappropriate psychotropic drugs.

FISIOPATOLOGIA COMPLESSA ED INCERTA



TRATTAMENTO FARMACOLOGICO: INEFFICACE + EFFETTI COLLATERALI



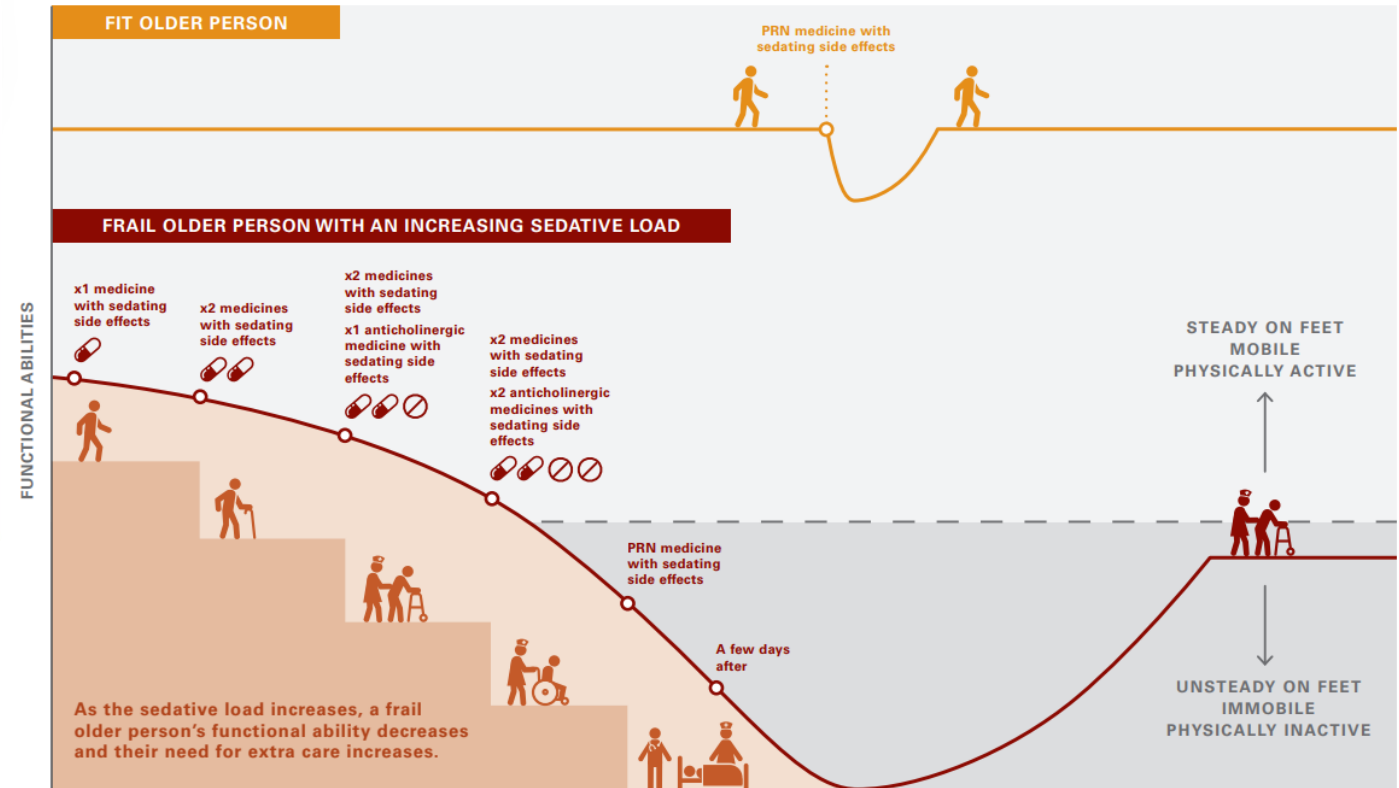
NATURA DUPLICE del FARMACO

φάρμακον
pharmakon / drug



In older people:

- some medicines, including opioids, benzodiazepines and antipsychotics can stay in the body for longer, exerting prolonged side effects, such as drowsiness and confusion making it difficult to function or walk independently^{2, 5}
- sensitivity to the effects of medicines is often increased, for example the side effects of sedation, confusion and memory impairment are enhanced with benzodiazepine use, even when given at standard doses^{5, 6}
- some medicines take longer to be excreted by the kidneys^{5, 6}
- there is an increased risk of adverse drug effects, for example, antipsychotics and medicines for Parkinson's disease can cause orthostatic hypotension^{2, 5}



Adapted from: Clegg A, Young J, Iliffe S, Rikkert M, Rockwood K. Frailty in elderly people. The Lancet. 2013; 381: 752-62.

SIGN 157: Risk reduction and management of delirium

Key recommendations



Specifically detect, assess causes of, and treat agitation and/or distress, using non-pharmacological means only, if possible.



Communicate the diagnosis to patients and carers, encourage involvement of carers, and provide ongoing engagement and support.



Aim to prevent complications of delirium such as immobility, falls, pressure sores, dehydration, malnourishment, isolation.



Monitor for recovery and consider specialist referral if not recovering.



Consider follow up.



6 PROVEN* STRATEGIES TO PREVENT DELIRIUM IN OLDER ADULTS



4. COLLABORARE CON I FAMILIARI

Spiegare cos'è il delirium

Fornire supporto e ascolto a parenti e caregivers e coinvolgerli nel "care"



THINK DELIRIUM PREVENTION & MANAGEMENT

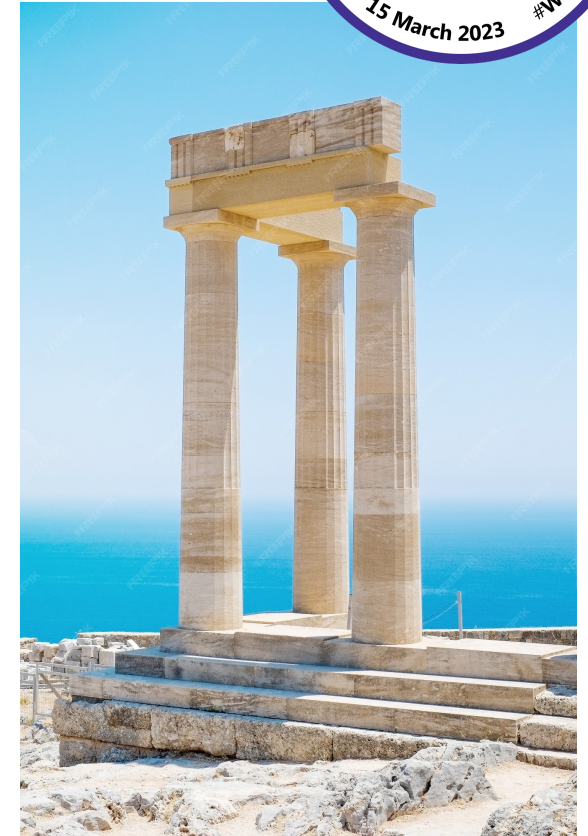


One third to one half of delirium that occurs while older people are in our care can be prevented by addressing these risk factors

Think
PINCHES ME
kindly



Developed in the Canterbury District Health Board as part of the THINKdelirium project



Approccio individualizzato
Collaborazione multidisciplinare
Ongoing monitoring

Modifiche ambientali

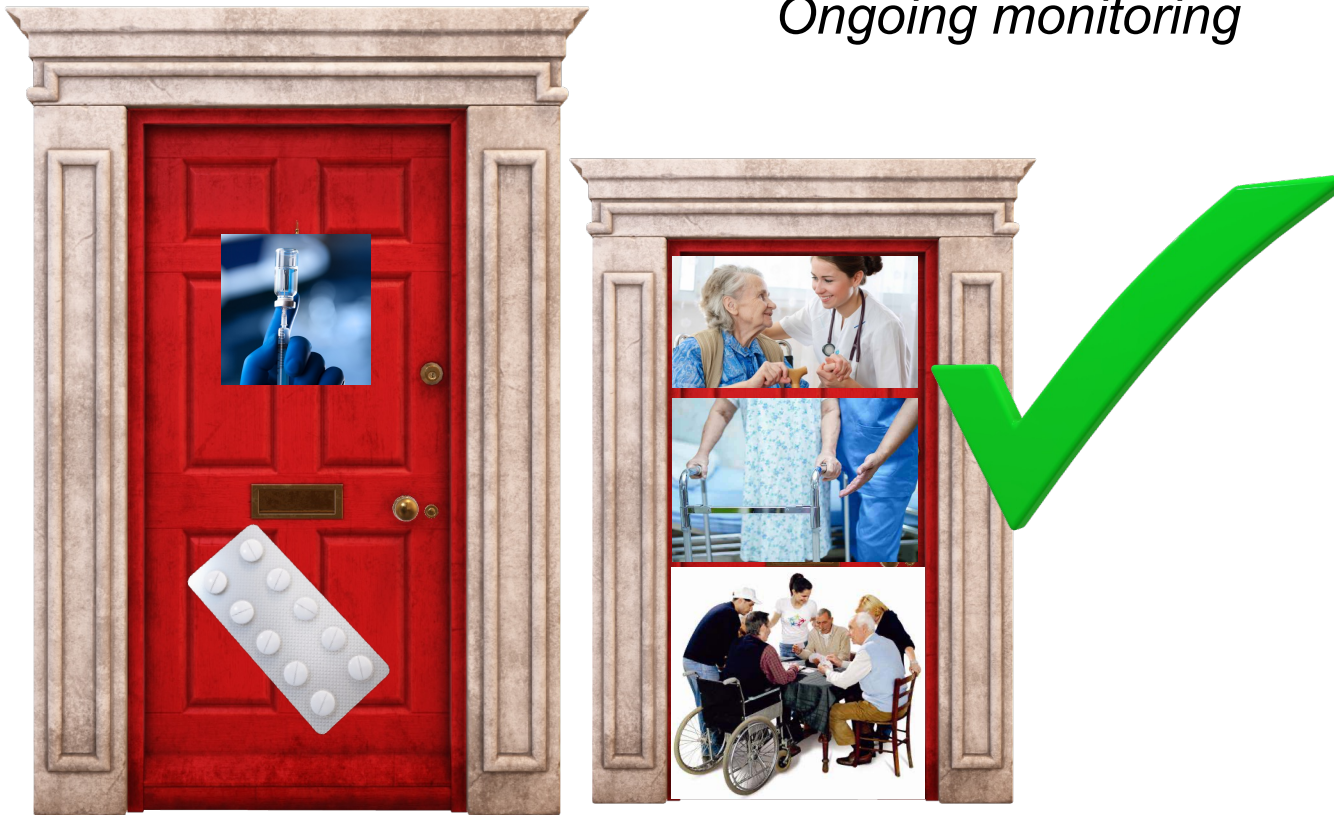
Creazione di ambienti rilassanti e che supportino grazie alla tecnologia la riduzione di agitazione e confusione.

Attività terapeutiche

Coinvolgimento in attività ricreative e terapeutiche personalizzate sulle necessità dell'individuo.

Interventi comportamentali

Approcci personalizzati per gestire «challenging behaviors» senza farmaci.



- In presenza di difficoltà della comunicazione verbale, utilizzare al meglio **il canale non-verbale** (porsi di fronte e allo stesso livello del paziente guardandolo negli occhi, sorridere, avere un tono della voce pacato e calmo)
- **Evitare di rivolgersi al paziente con approccio infantilizzante**
- Fornire **stimoli sensoriali con parsimonia e pacatezza** (musica dolce, parole dal suono rassicurante, tenere la mano, chiedere ai familiari di fornire foto o immagini che possano suscitare nel paziente ricordi positivi)
- **Non dimenticare che ogni anziano ha un proprio vissuto**, che deve essere sempre conosciuto e valorizzato, al fine di **personalizzare** l'approccio e migliorare la cura

Prevenire il delirium è possibile?



Cochrane
Library

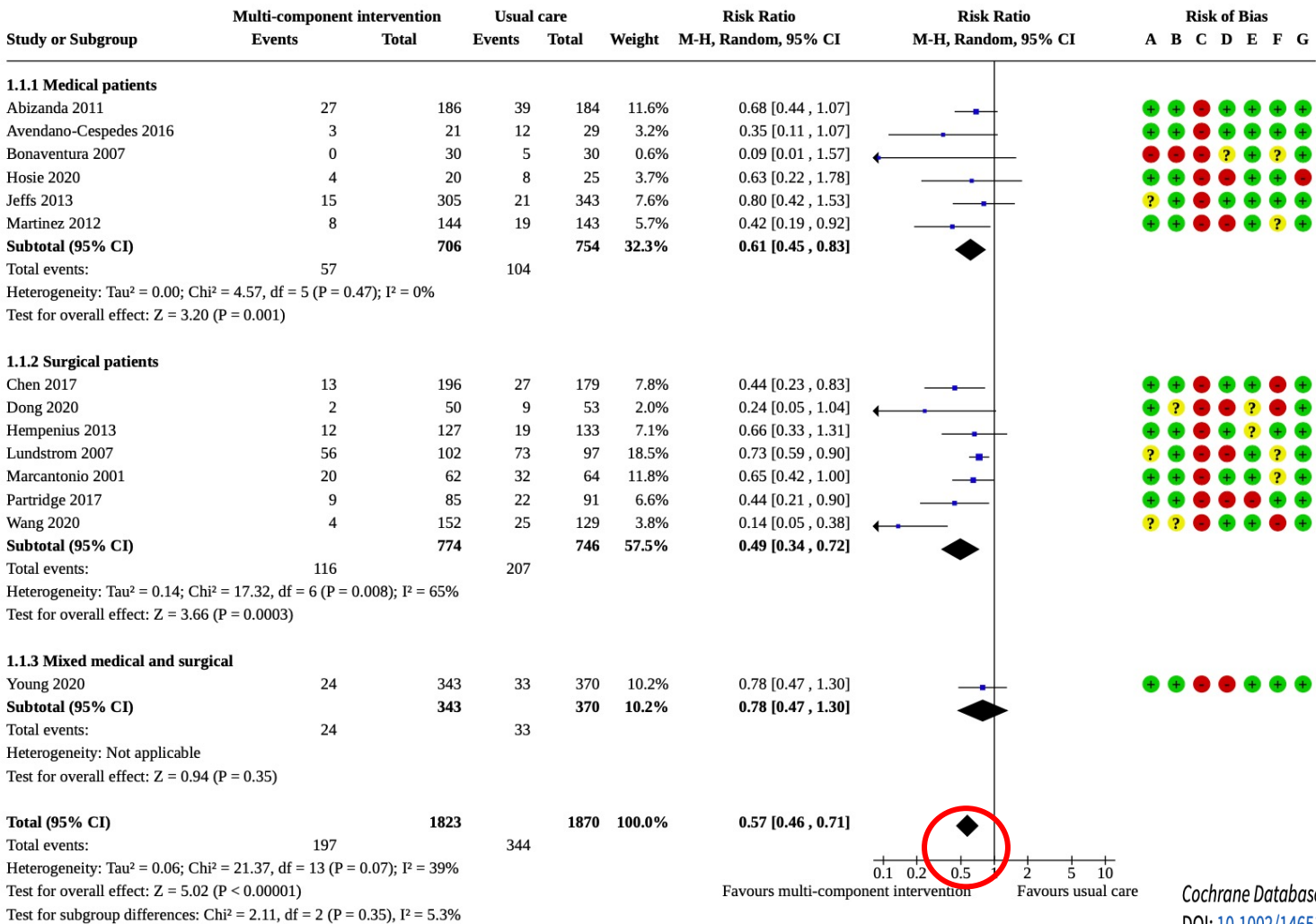
Cochrane Database of Systematic Reviews

Non-pharmacological interventions for preventing delirium in hospitalised non-ICU patients (Review)

Burton JK, Craig L, Yong SQ, Siddiqi N, Teale EA, Woodhouse R, Barugh AJ, Shepherd AM, Brunton A, Freeman SC, Sutton AJ, Quinn TJ

Cochrane Database of Systematic Reviews 2021, Issue 11. Art. No.: CD013307.
DOI: [10.1002/14651858.CD013307.pub3](https://doi.org/10.1002/14651858.CD013307.pub3).

Prevenire il delirium è possibile?



43%
Rischio
delirium



An initiative of the ABIM Foundation

American Geriatrics Society



**Ten Things Clinicians
and Patients Should Question**

4

Don't use benzodiazepines or other sedative-hypnotics in older adults as first choice for insomnia, agitation or delirium.

Large-scale studies consistently show that the risk of motor vehicle accidents, falls and hip fractures leading to hospitalization and death can more than double in older adults taking benzodiazepines and other sedative-hypnotics. Older patients, their caregivers and their providers should recognize these potential harms when considering treatment strategies for insomnia, agitation or delirium. Use of benzodiazepines should be reserved for alcohol withdrawal symptoms/delirium tremens or severe generalized anxiety disorder unresponsive to other therapies.

10

Don't use physical restraints to manage behavioral symptoms of hospitalized older adults with delirium.

Persons with delirium may display behaviors that risk injury or interference with treatment. There is little evidence to support the effectiveness of physical restraints in these situations. Physical restraints can lead to serious injury or death and may worsen agitation and delirium. Effective alternatives include strategies to prevent and treat delirium, identification and management of conditions causing patient discomfort, environmental modifications to promote orientation and effective sleep-wake cycles, frequent family contact and supportive interaction with staff. Nursing educational initiatives and innovative models of practice have been shown to be effective in implementing a restraint-free approach to patients with delirium. This approach includes continuous observation; trying re-orientation once, and if not effective, not continuing; observing behavior to obtain clues about patients' needs; discontinuing and/or hiding unnecessary medical monitoring devices or IVs; and avoiding short-term memory questions to limit patient agitation. Pharmacological interventions are occasionally utilized after evaluation by a medical provider at the bedside, if a patient presents harm to him or herself or others. If physical restraints are used, they should only be used as a last resort, in the least-restrictive manner, and for the shortest possible time.

Antipsychotics for Preventing Delirium in Hospitalized Adults

A Systematic Review

14 RCT

Conclusion: Current evidence does not support routine use of haloperidol or second-generation antipsychotics for prevention of delirium. There is limited evidence that second-generation antipsychotics may lower the incidence of delirium in postoperative patients, but more research is needed. Future trials should use standardized outcome measures.



 **FREE ACCESS** | Reviews | 3 September 2019

Antipsychotics for Treating Delirium in Hospitalized Adults: A

Systematic Review **FREE**

16 RCT

Conclusion:

Current evidence does not support routine use of haloperidol or second-generation antipsychotics to treat delirium in adult inpatients.

Antipsychotics for agitation and psychosis in people with Alzheimer's disease and vascular dementia (Review)



Cochrane Database of Systematic Reviews

Mühlbauer V, Möhler R, Dichter MN, Zuidema SU, Köpke S, Luijendijk HJ

- It is **uncertain** whether **typical antipsychotics reduce agitation**, owing to pronounced heterogeneity and imprecision of the confidence interval.
- **Haloperidol might decrease agitation** (s.m.d. = -0.29 , 95% CI -0.51 to -0.07), although notably the confidence interval is close to 0.
- **Haloperidol might also improve psychosis slightly** (s.m.d. = -0.29 , 95% CI -0.55 to -0.03), but the confidence interval suggests an effect of no clinical relevance. Moreover, each paper analysing the efficacy of typical antipsychotics had a high risk of bias in at least one domain.
- **Risperidone potentially reduces agitation** (s.m.d. = -0.26 , 95% CI -0.44 to -0.09), although with pronounced heterogeneity, and probably has a negligible effect on psychosis (s.m.d. = -0.11 , 95% CI -0.23 to 0.01) owing to a confidence interval that indicates no clinical relevance.

Antipsychotics for agitation and psychosis in people with Alzheimer's disease and vascular dementia (Review)



Cochrane Database of Systematic Reviews

Mühlbauer V, Möhler R, Dichter MN, Zuidema SU, Köpke S, Luijendijk HJ

TYPICAL antipsychotics compared with placebo:

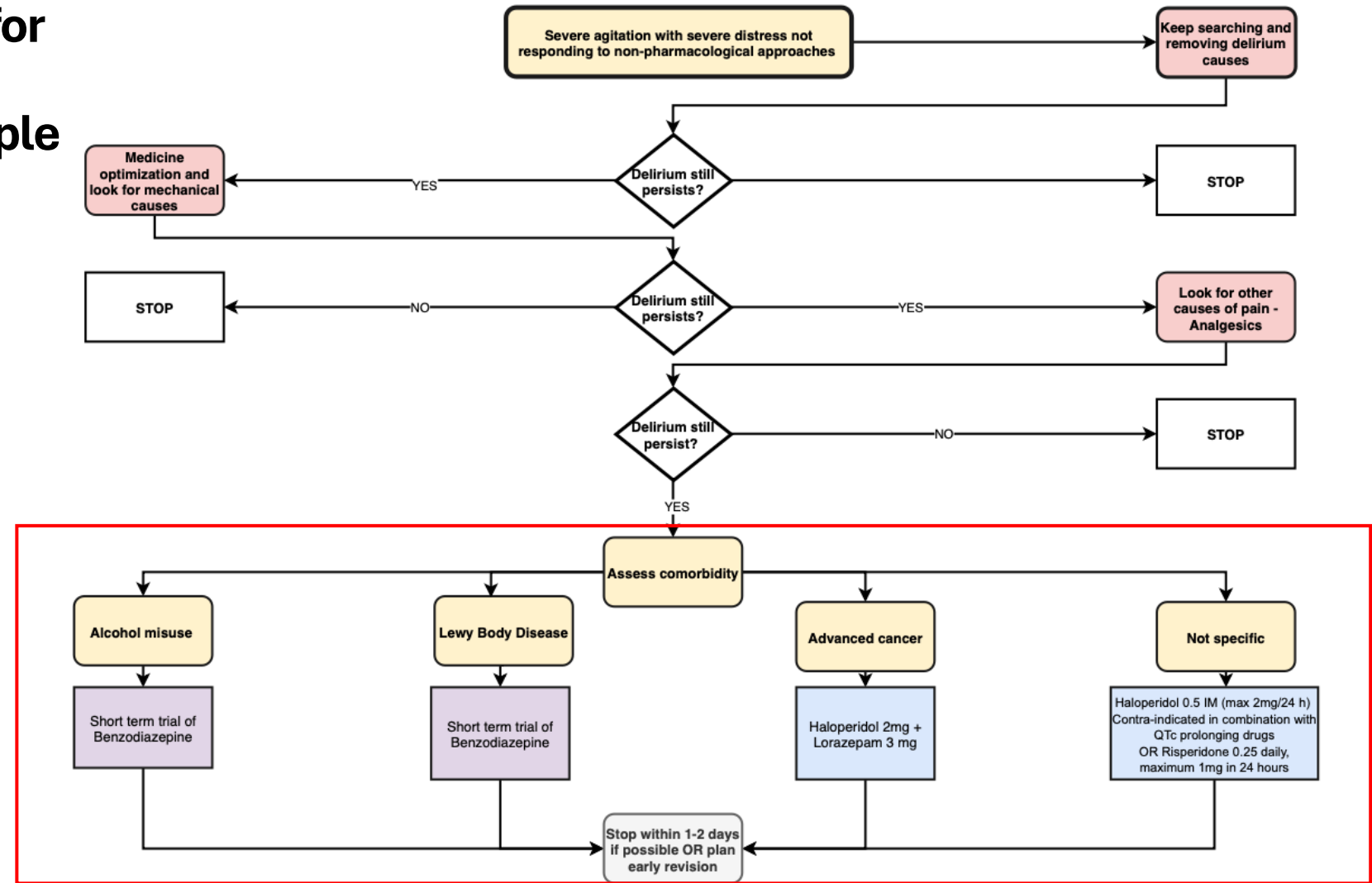
- probably have a higher risk of being drowsy
 - are **more likely to experience movement disorders (slowing of movements, stiffness)**
-
- may have a slightly increased risk of serious harm and death

ATYPICAL antipsychotics compared with placebo:

- have a **higher risk of being drowsy**
 - are probably more likely to experience movement disorders
-
- probably have a slightly increased risk of serious harm and death

Outcomes funzionali? PROMs e PREMs?

Proposed algorithm for the management of delirium in older people



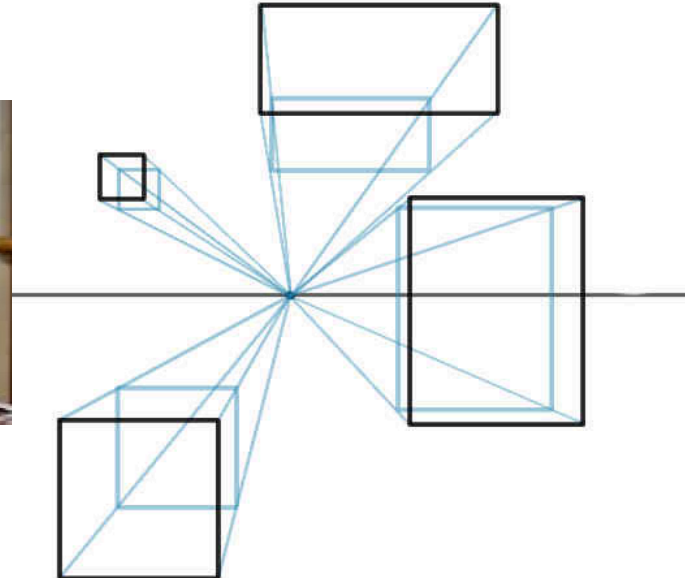
Bellelli G et al, Frontiers Neuroscience 2021

Potenziali benefici

Gestione sintomi

Migliore qualità di vita

It may be helpful to consider *who is distressed by the symptoms*



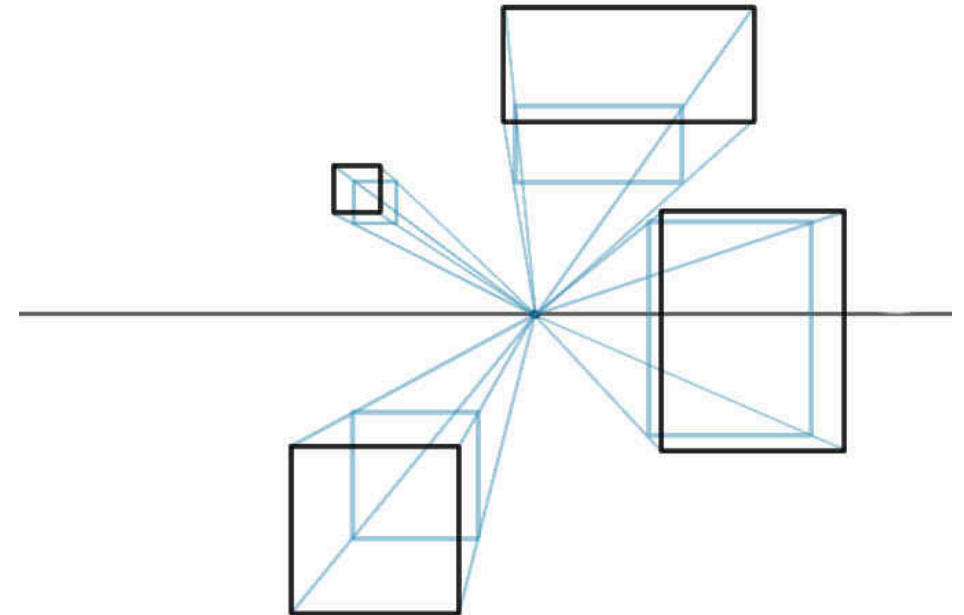
Rischi

Interazioni
farmacologiche

Effetti collaterali:
effetti extrapiramidali, cadute,
sonnolenza, declino cognitivo,
eventi avversi maggiori



*Symptoms versus
drug side effects: what
matters and to whom?*

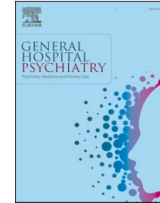




Contents lists available at ScienceDirect

General Hospital Psychiatry

journal homepage: www.elsevier.com/locate/genhospsych



Efficacy and moderators of prevention and treatment of delirium with melatonin receptor agonists: A systematic review and meta-analysis of randomized controlled trials

A B S T R A C T

Objective: Delirium is a complex and heterogeneous condition that significantly affects patient outcome. This study aimed to conduct a systematic review and meta-analysis to investigate the effects of melatonin and melatonin receptor agonists (MRAs) on delirium prevention and treatment.

Method: Randomized controlled studies, using MRAs as an intervention and placebo as a control were included. We conducted meta-analyses with random-effects model and trial sequential analysis.

Results: A total of 33 studies involving 4850 participants were included. The meta-analysis revealed a significant preventive effect of MRAs on delirium (risk ratio = 0.65, $p < 0.01$), while no significant therapeutic effect was observed. Additionally, MRAs were associated with a significant reduction in mortality rate (risk ratio = 0.90, $p = 0.02$) in delirium prevention studies. Furthermore, subgroup analyses revealed that assessment scales and the frequency of delirium detection may be significant moderators of the delirium-preventive efficacy of MRAs.

Conclusion: This study provides evidence of the potential effects of MRAs in preventing delirium and reducing mortality. Further research is required to elucidate the therapeutic potential of MRAs for delirium and identify specific patient populations that may benefit from this agent.



Weighing it up: What are the options? What should we ask?

1. Are the *symptoms distressing*? For whom? What are the likely effects of the symptoms?
2. What *improvement* are we hoping to see, and over how long?
3. Would the *potential drug side effects be distressing* or problematic? For whom?
4. Could some *side effects actually be an intended effect*? (e.g., sleepiness if distress is severe)
5. Is '*waiting and seeing*' an option at this time? What might change the current approach or recommendation?

Responsibility for restarting or remaining on antipsychotics?

- The **Halting Antipsychotic Use in Long-Term care (HALT)** study identified that **increased agitation** was the most common reason for **restarting or remaining on antipsychotics**.
- The majority of these **requests** came from the **nursing team (63.2%)** and **family members** (Aerts 2019).
- Interestingly, it has been proposed that **carers deem the benefits of antipsychotics 'more perceptible than their side-effects'** (Almutairi 2018), potentially increasing their prescription (Kerns 2018).



People with dementia who experience symptoms such as agitation or psychosis might be offered medication to improve them. The potential benefits and harms of the drugs need to be considered in the context of what matters to the individual and their families.



There is Cochrane evidence that antipsychotic drugs for treating agitation and psychosis in people with Alzheimer's disease may lead to a small improvement but may also cause side effects, such as sleepiness, and/or slowing or stiffness of movements



Symptoms of agitation and psychosis often get better with time, whether or not you treat them

A systematic review of quantitative studies exploring staff views on antipsychotic use in residents with dementia in care homes

Review Article | [Open access](#) | Published: 29 September 2023

Volume 45, pages 1050–1061, (2023) [Cite this article](#)

Results

Fourteen studies (2059 participants) were included. Findings identified four overarching themes: attitudes toward antipsychotics (e.g. antipsychotics as an appropriate strategy and effectiveness); barriers to deprescribing (e.g. lower staff education, lack of resources and time, poor medication reviews); measures implemented (e.g. nonpharmacological interventions, medication reviews); and perceived needs of staff (e.g. need for training, financial or clinical support). Identified tools addressed seven but not all components of TPB namely, behavioural, normative and control beliefs, attitude, perceived behavioural control, intention and behaviour.

> [Aging Ment Health](#). 2022 Jun;26(6):1087-1094. doi: 10.1080/13607863.2021.1922601.
Epub 2021 May 13.

Improving the appropriateness of psychotropic prescribing for nursing home residents with dementia: an overview of reviews

Daisy A Wiggin ¹, Suzanne Timmons ¹, Aphie Rukundo ¹, Kieran A Walsh ¹

Results: Of 273 records identified, 11 systematic reviews were included. The quality of reviews ranged from critically low to moderate. There was mixed evidence for the use of education-only interventions. Multicomponent interventions (typically staff education combined with organisational and structural components), medication review, and interventions aimed at cultural change were evidenced as effective compared to care as usual. Stakeholders cited the importance of multidisciplinary collaboration and targeting organisational climate in changing psychotropic prescribing behaviours.

Farmaci psicoletti



Da riservare ai casi in cui il livello di stress del paziente e/o il rischio di procurare danni alla propria persona o ad altri è eccessivamente elevato



Per il minor tempo possibile ed alle dosi più basse



Non per “guarire” il delirium, nè tanto meno per prevenirlo, ma solo per ridurre l'agitazione



L'efficacia delle terapie di supporto non farmacologico è limitata una volta che il delirium si è manifestato

**THINK
Delirium!**

4

Perchè?

Delirium, sindrome geriatrica

SINDROME GERIATRICA

Condizione comune nella popolazione anziana

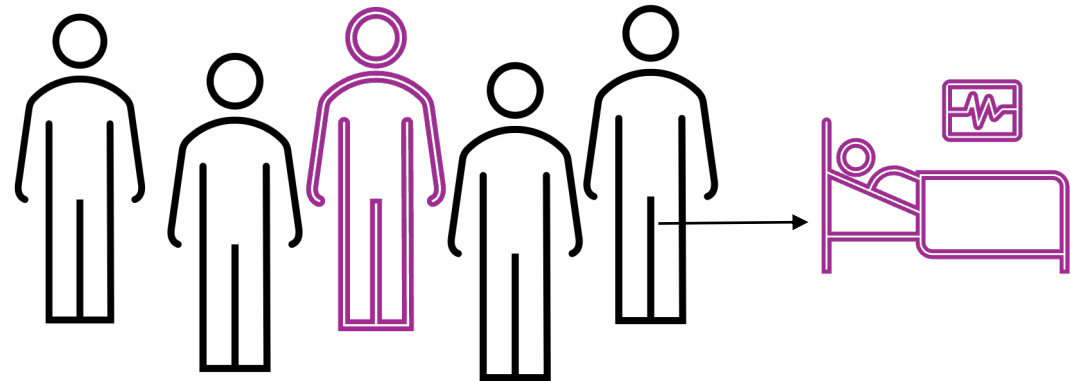
Molteplici fattori predisponenti e precipitanti

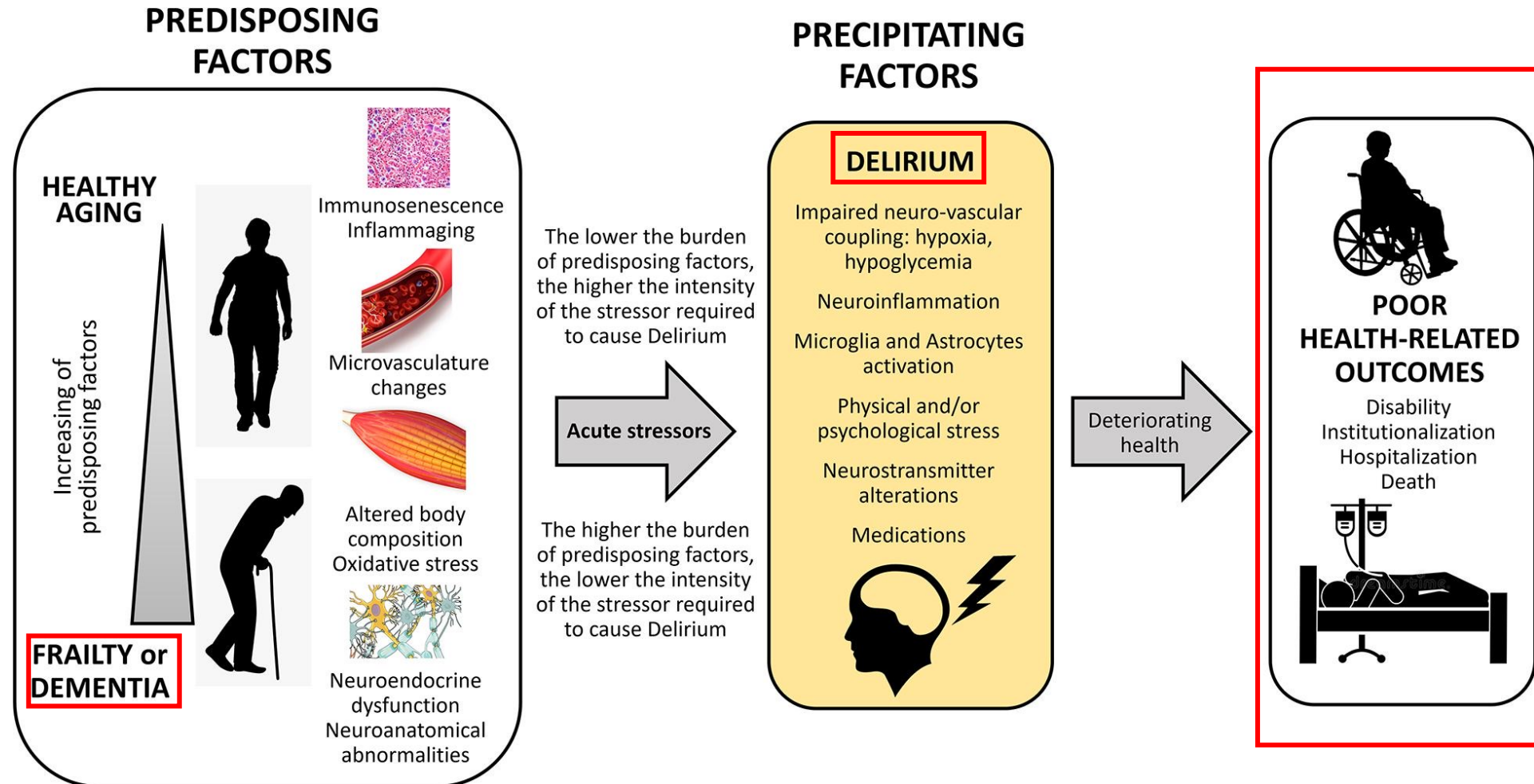
Interazione tra diversi pathways patogenetici

Manifestazioni cliniche varie e aspecifiche

Esiti avversi significativi e compositi

Necessita approccio non-farmacologico
multidimensionale





Interventions for dementia in care home settings



*National Institute for
Health Research*

Need to collaborate with staff at all levels and to involve family members for successful implementation.

Interventions that allow residents meaningful interactions with others and that can be integrated easily into routine care.

Barriers to implementation can be considerable, especially at a time of **pressure on resources.**

Given limited resources, **prioritise staff training over individual assessment** as less input from specialist staff is required and more residents could potentially benefit more quickly.

Interventions for dementia in care home settings



*National Institute for
Health Research*

**Inappropriate
prescribing of drugs
has a negative impact
on the quality of care
in care home settings.**

There is evidence
for **non-
pharmacological
interventions**, including
**structured activity,
caregiver education
and training, individual
assessment and care
planning.**

**Identify and target
initially those homes with
the highest levels of
antipsychotic use,
understand context
and encourage support/
involvement for the
training of the team.**



Delirium Training Video (Virtual Reality)

CombinedNHS
412 iscritti

Iscriviti

Mi piace

Condividi

Scarica

...

Per celebrare la **Giornata mondiale di sensibilizzazione sul delirium** del **16 marzo 2022**, siamo orgogliosi che il nostro primo risultato CVR sia un film VR di formazione altamente innovativo **per aiutare il personale sanitario in prima linea a creare conversazioni, aumentare la comprensione e l'empatia verso le persone affette da delirium e incoraggiarci tutti a "pensare" al delirium.**

Il film colloca lo spettatore nella testa di un paziente affetto da delirium in un letto d'ospedale. Vediamo ciò che vede la paziente, ascoltiamo i pensieri nella sua testa e sperimentiamo alcuni aspetti di ciò che il delirium le fa vedere.

Look around you. About 2 in every 10 hospital patients have a period of delirium.

Delirium can be terrifying

Life changing

Prevented!

Take-home messages



**IL DELIRIUM E' UNA
SINDROME
FREQUENTE, DA
RICONOSCERE
PRONTAMENTE
PER MITIGARNE LE
CONSEGUENZE
AVVERSE**



**LE STRATEGIE NON-
FARMACOLOGICHE
SONO IL PILASTRO
DELLA PREVENZIONE E
CURA DEL DELIRIUM**



**I FARMACI
PSICOLETICI
VANNO LIMITATI A
CASI DI SEVERO
DISTRESS DEL
PAZIENTE CON
RISCHIO DI AUTO O
ETERO-LESIVITA**



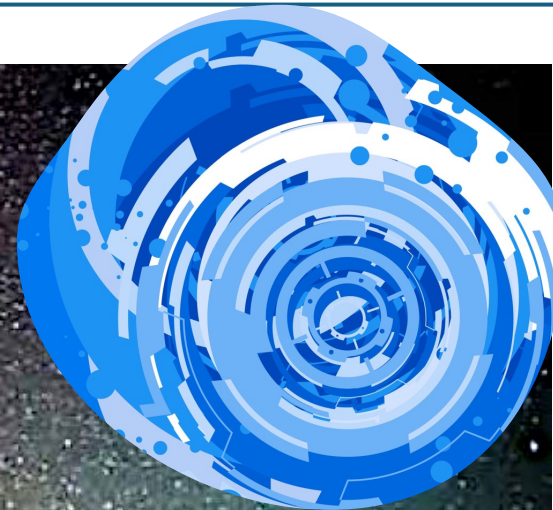
**I TRATTAMENTI
FARMACOLOGICI
HANNO UNO SCARSO
RAPPORTO RISCHIO-
BENEFICIO, PERCIÒ
BISOGNA RIVALUTARNE
PERIODICAMENTE
L'UTILITA**



**FORMARE E
COINVOLGERE
DIVERSE FIGURE
PROFESSIONALI,
PER PERMETTERE
L'AUSPICATA
TRANSIZIONE
CULTURALE**

Il cervello umano è
un mondo da scoprire,
che racchiude più del
firmamento o delle
profondità marine.

Santiago Ramón y Cajal
Premio Nobel per la Medicina 1906
(Navarra 1852 – Madrid 1934)



Grazie per l'attenzione

Maria Cristina Ferrara
mcris.ferrara@gmail.com