

COLLABORATIVE PROBLEM SOLVING IN NUTRIZIONE CLINICA

Giornate catanesi di nutrizione clinica VI edizione

Con il patrocinio di



Università
di Catania



23-24
Giugno
2022



Casa la Carrubazza

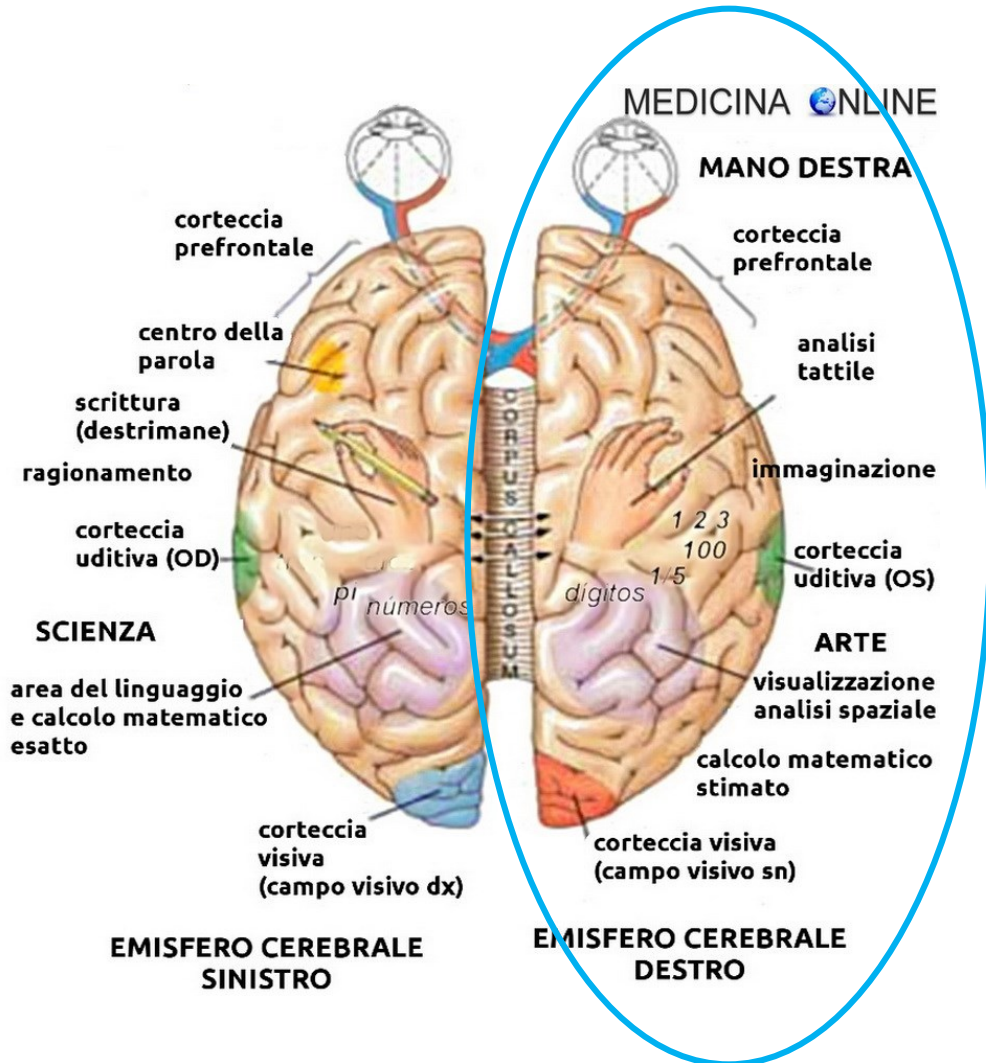
Via Raffaello Sanzio, 38 - San Gregorio di Catania (CT)

Farmaconutrizione nel paziente neurologico non disfagico
G. Zappalà

Malnutrizione in Neurologia

- Malnutrizione frequente nei pazienti neurologici
 - Allettamento prolungato
 - Assunzione non corretta di nutrienti e alimenti
 - Terapia farmacologica
 - Ipo o ipermetabolismo
 - Neuromuscolare (sarcopenia)
 - Disfagia (ma non solo)
 - Decubiti; mobilizzazione scarsa
- **Malattie Neurologiche ACUTE:**
 - Encefaliti/ **Encefalopatie carenziali**
 - **Traumi cranici gravi e coma**
 - Ipossia/**anossia** cerebrale
 - Vascolari (ictus ed **emorragie**)
 - **Differenza Dx/Sn**
 - Lesioni spinali
 - **Malattie neurologiche croniche:**
 - Degenerative (AD; SLA; PD)
 - Infiammatorie/Disimmuni (SM; MG)

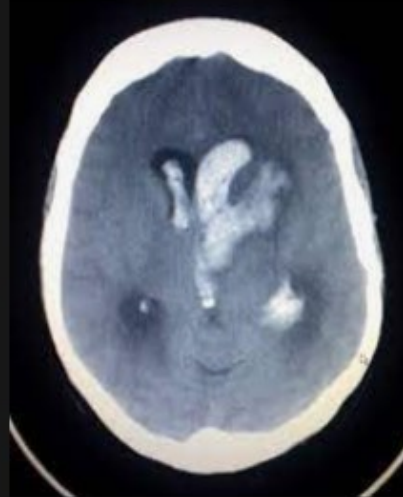
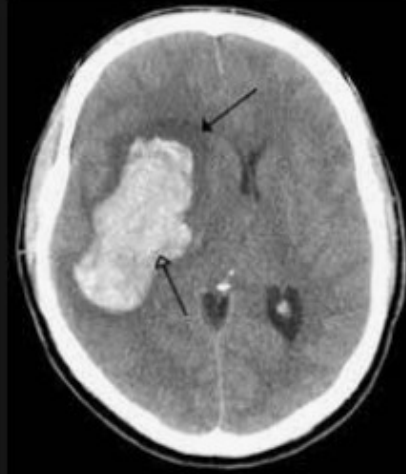
I DUE emisferi cerebrali



Emisfero leso e danno cerebrale

Immagini correlate

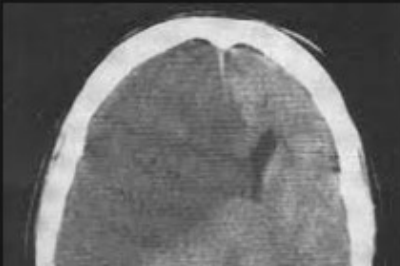
Espandi



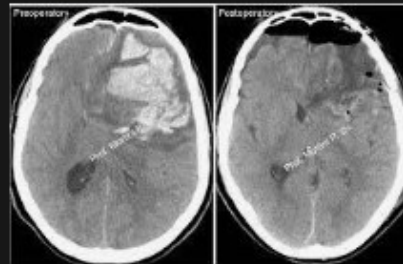
Ictus - Wikipedia
it.wikipedia.org

Ictus - Wikipedia
it.wikipedia.org

Ictus - Wikiwand
wikiwand.com



Differenza tra ictus ischemi...



Emisfero Sinistro

Afasia

Piena consapevolezza

Buona Attenzione e vigilanza

Chiede aiuto

Partecipa alle terapie; chiede il cibo

Emisfero Destro

- Inconsapevolezza di malattia
- Scarsa vigilanza, poca stimolazione
- Poca collaborazione
- Scarsa emotività
- **Non si alimenta**

2.4 Effect of Drug Therapy

Drug therapy can decrease food intake due to dysgeusia, nausea and vomiting, dry mouth, decrease in gastric emptying, etc (**Table 2**). Interactions with micronutrients have also been described.

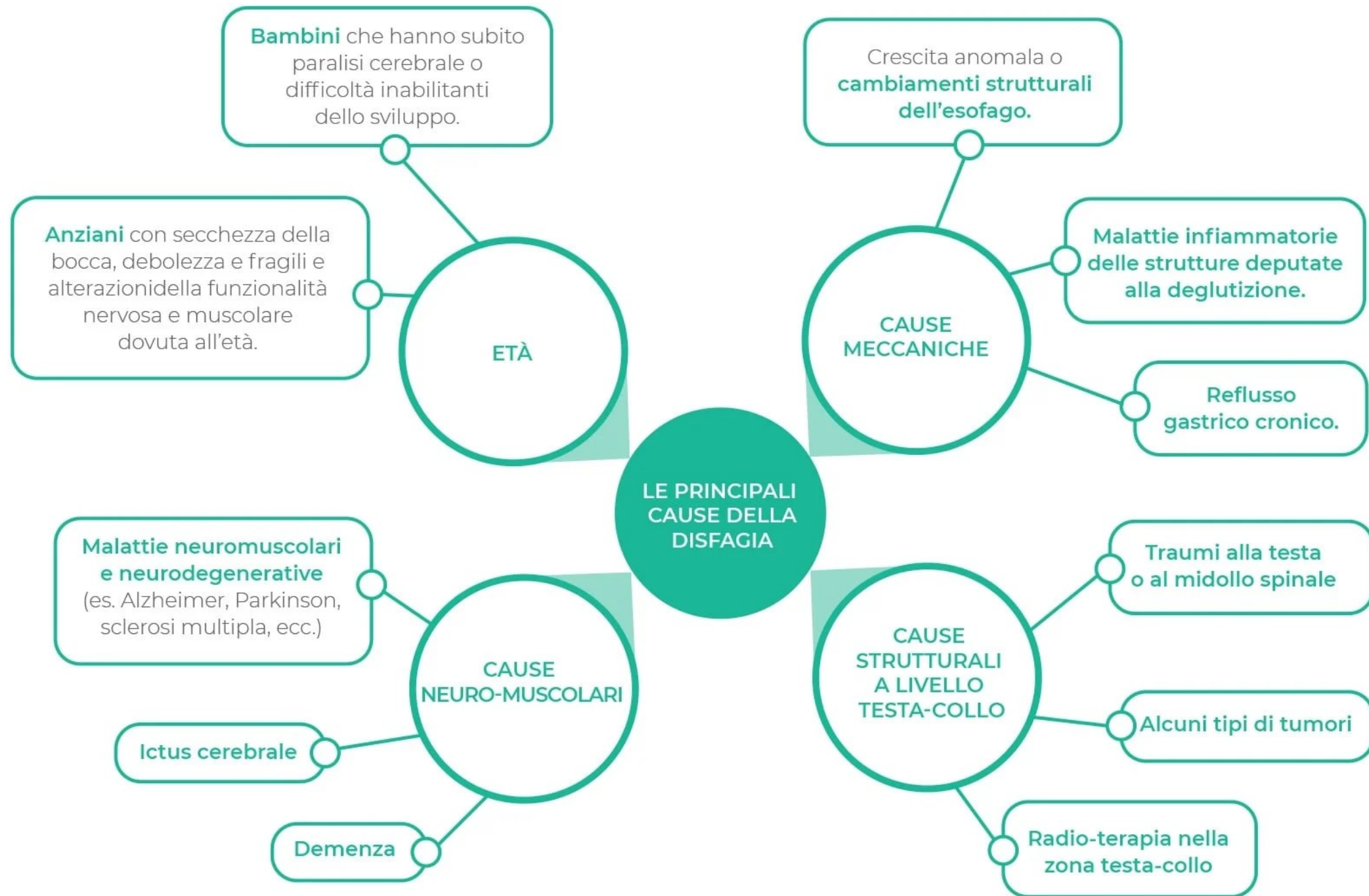
Table 2
Nutrition-related side effects of drugs commonly used in neurological patients

Drug	Side effect
Interferon	Weight loss, anorexia, fever, depression, dysgeusia
Atypical antipsychotics	Weight gain, central obesity, metabolic syndrome
Dopaminergic agents	Nausea, vomiting, anorexia, psychosis
Levodopa	Nausea, vomiting, constipation
Steroids	Decrease in muscle mass
Anticholinergics	Dry mouth, dehydration, delayed gastric emptying, constipation



List of drugs commonly used in

Drug	Micronutrient
Steroids	Negative calcium balance. Osteoporosis
Phenytoin	Vit D, K, folate, and B6 deficiency
Levodopa	Increased homocysteine, vitamin B6, B12 deficiency
Phenobarbital	Folate and vit D deficiency
Omeprazole, ranitidine	Vitamin B ₁₂ , calcium, iron deficiency
Antacids	Phosphate deficiency
Diuretics	Thiamine deficiency



QUADRI FUNZIONALI DI DISFAGIA

**DIFFICOLTA'
A
INGERIRE**

**RISCHIO
AB
INGESTIS**

Extraorale

- Rifiuto cibo / inappetenza
- Difficoltà portare cibo alla bocca

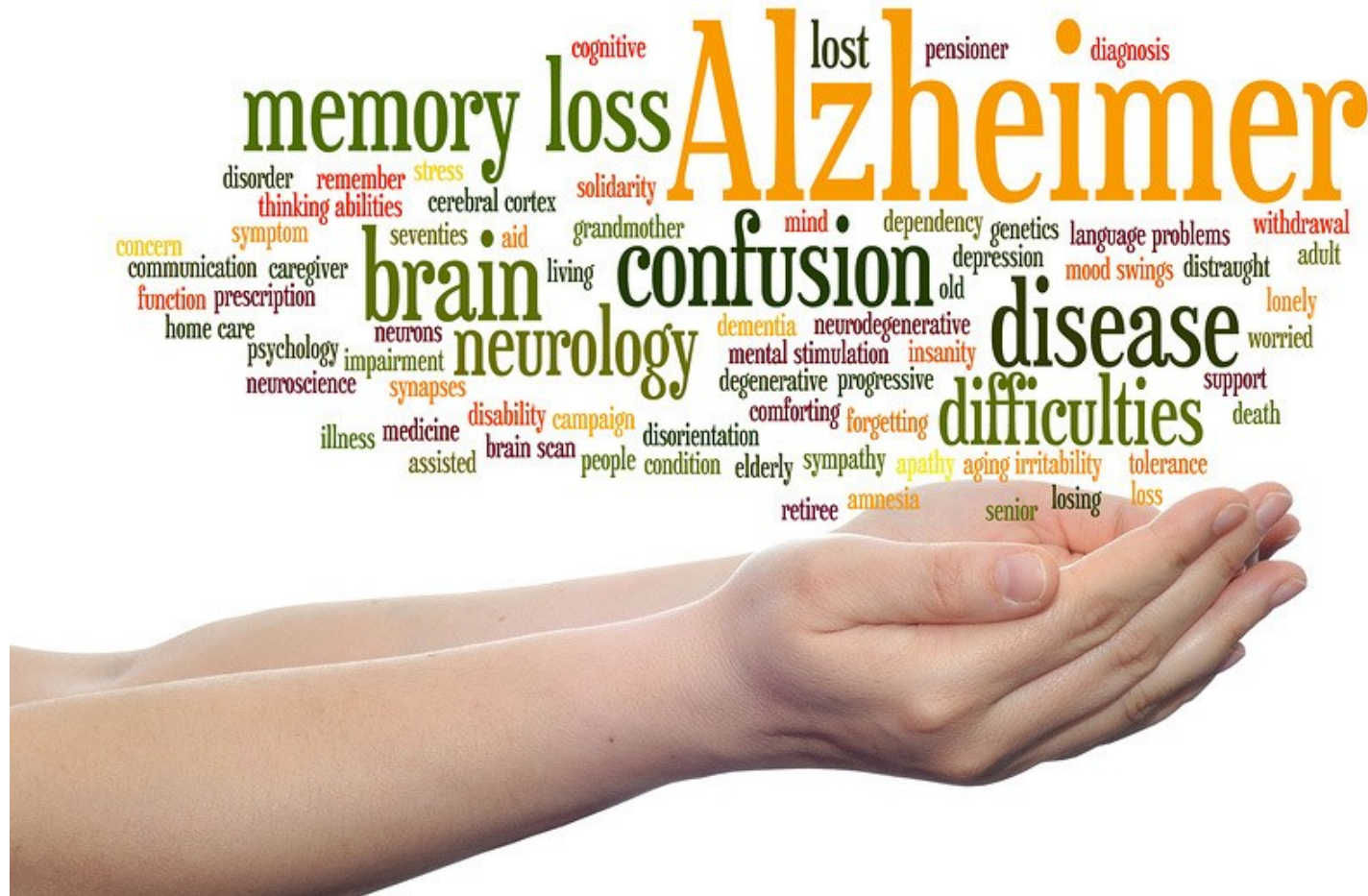
Orale

- Perdita cibo dalla bocca
- Difficoltà a masticare
- Deficit controllo oro-faringeo (liquidi)
- Residui (solidi)
- Deficit propulsivo
- Affaticamento

Faringea

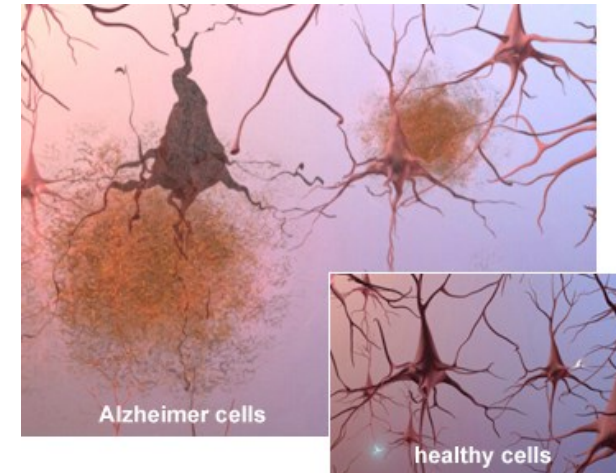
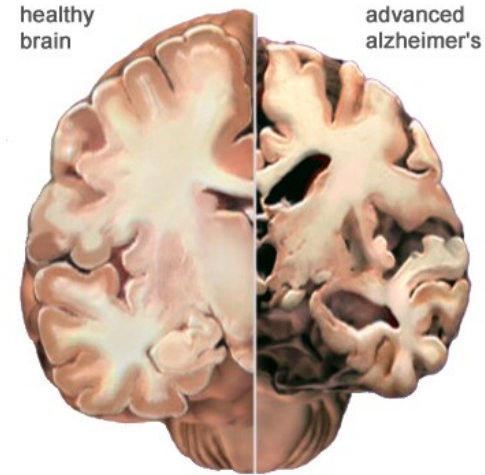
- Deficit innesco
- Deficit propulsivo
- Penetrazione/aspirazione
- Residui

Alzheimer's and Other Dementias

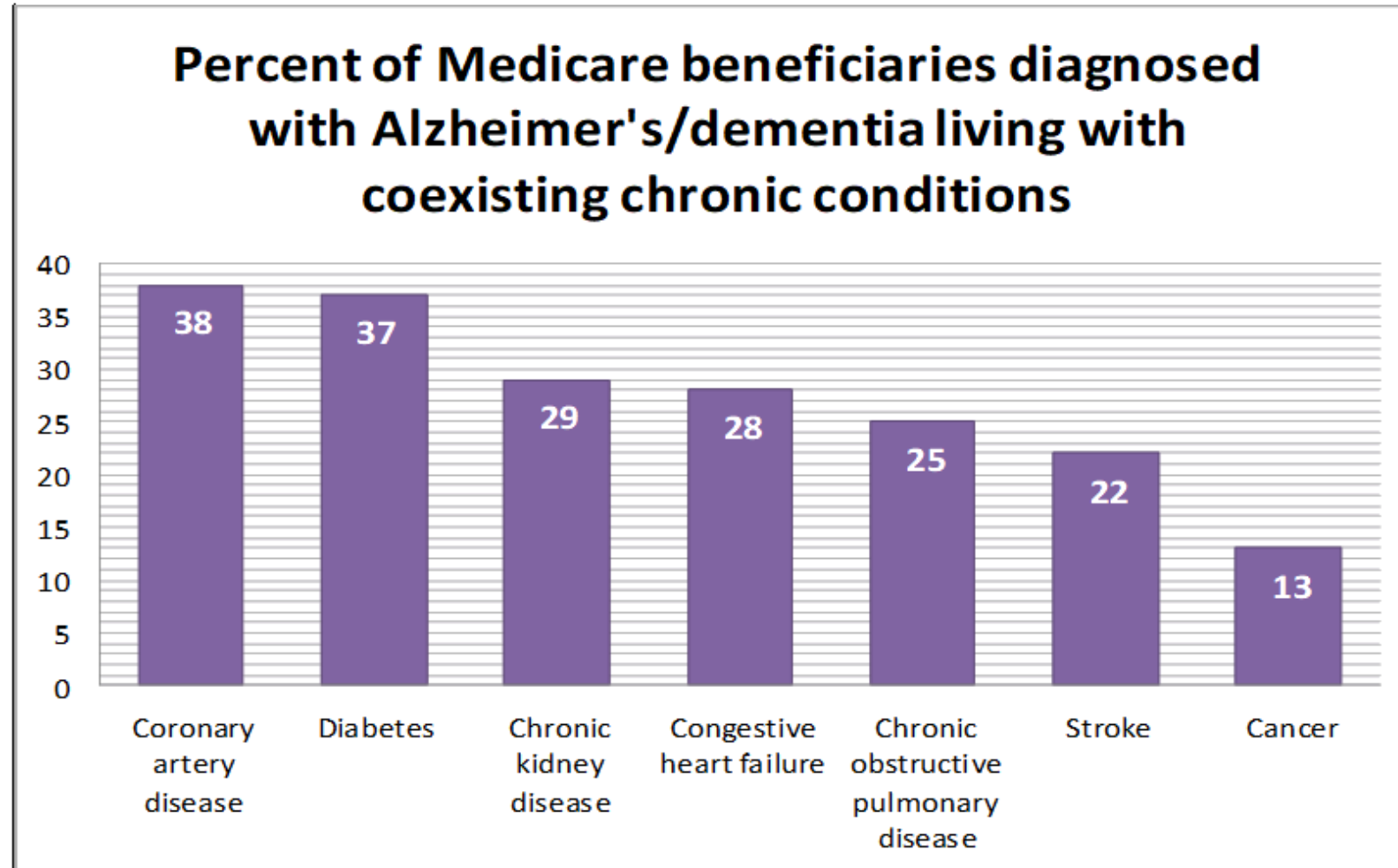


What Is Alzheimer's Disease?

- Most common type of dementia
- Accounts for 60%-80% of cases
- Irreversible, progressive brain disorder
- Neurons die; Breakdown in cell communication
- Tangles and plaques; brain shrinkage
- Slowly destroys memory, thinking skills, and ability to carry out basic functions
- Greatest risk factor is age
- Progressive, eventually fatal
- No cure



Alzheimer's and Coexisting Conditions



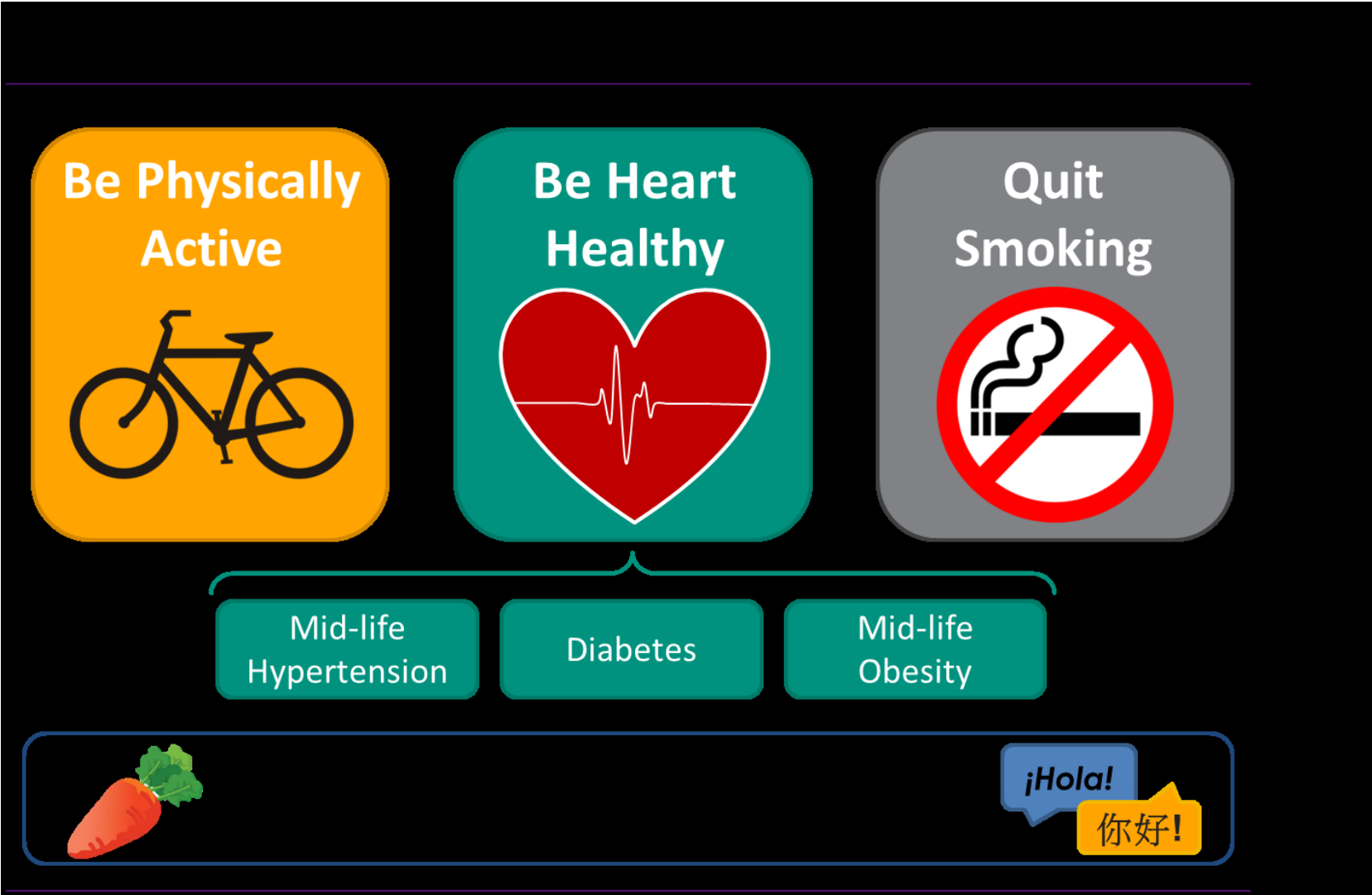
Alzheimer's Association. 2018 Alzheimer's Disease Facts and Figures.

Know The 10 Signs

Know The 10 Signs

- 1 Memory changes that disrupt daily life
- 2 Challenges in planning or solving problems
- 3 Difficulty completing familiar tasks
- 4 Confusion with time or place
- 5 Trouble understanding images and spatial relationships
- 6 New problems with words in speaking or writing
- 7 Misplacing things and losing the ability to retrace steps
- 8 Decreased or poor judgment
- 9 Withdrawal from work or social activities
- 10 Changes in mood or personality

Reducing the Risk of Cognitive Decline



Mediterranean diet



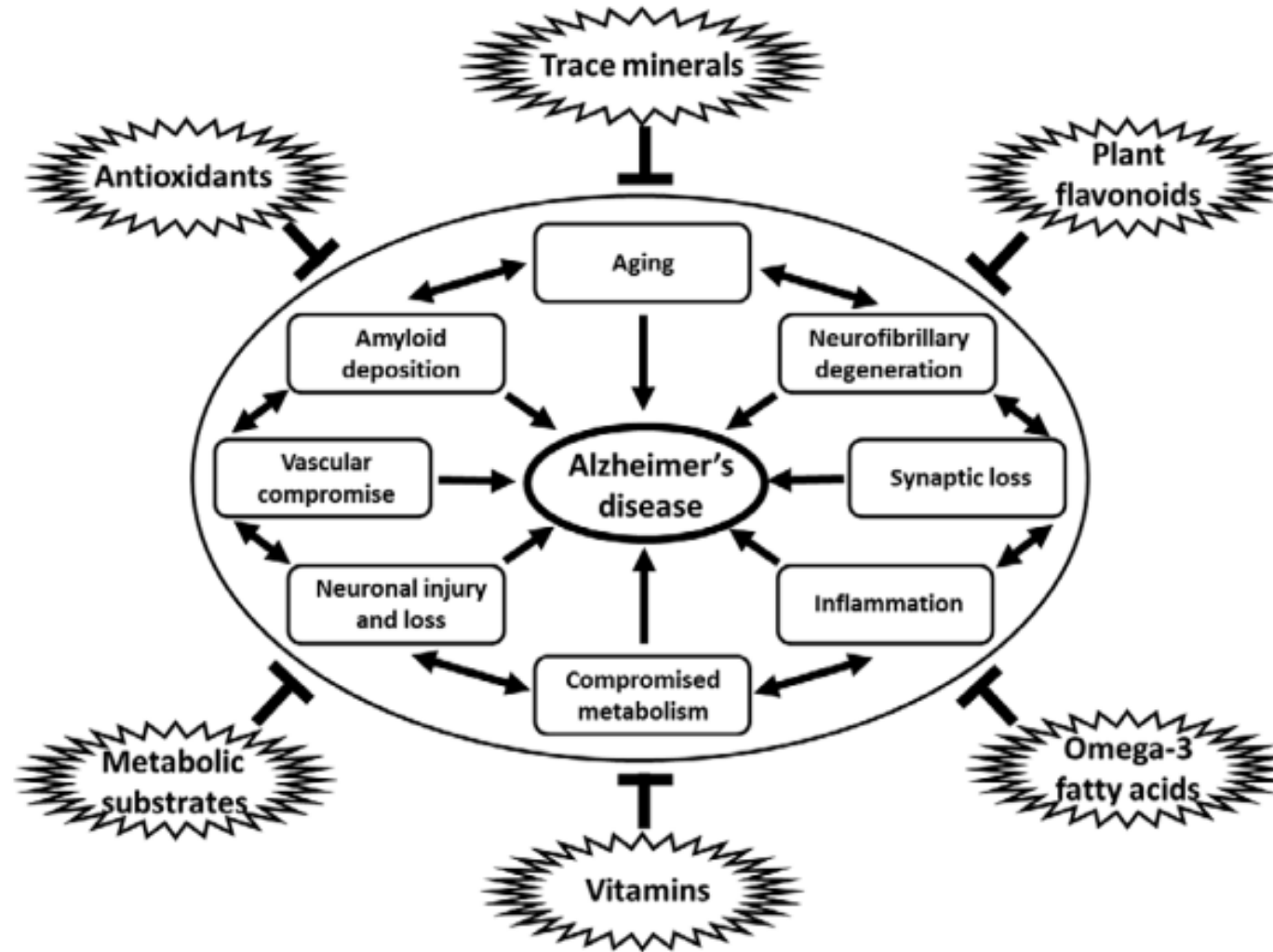
- Diet is rich in fruits, vegetables, olive oil, legumes, whole grains and fish
- Studies have shown that people that closely follow a Mediterranean diet are less likely to have AD than those who don't
- Research suggests that a Mediterranean diet may:
 - slow cognitive decline in older adults
 - reduce the risk of MCI progressing to AD
 - slow the progression of AD and disease-related deaths

prevent

Souvenaid



- Medical nutrition supplement specifically for Mild AD → Omega-3 polyunsaturated FA's, Uridine, monophosphate, choline, B vitamins and a range of other nutrients
- Supports neurones and connections in the early stages of AD
- Studies → modest benefits on cognition, memory and daily function in subset of patients in earliest stages of AD
- Also delayed shrinkage of hippocampus (important in STM)



1) Cause di iponutrizione del demente

- DISFAGIA

- Non solo nelle fasi più avanzate (specie forme vascolari o sottocorticali)
- Desiderio (conscio ? inconscio ?) del paziente di alimentarsi
- “ *...Is early dysphagia identified? Poor or absent screening allows dysphagia to progress to an advanced stage*” Regnard BMJ 2007

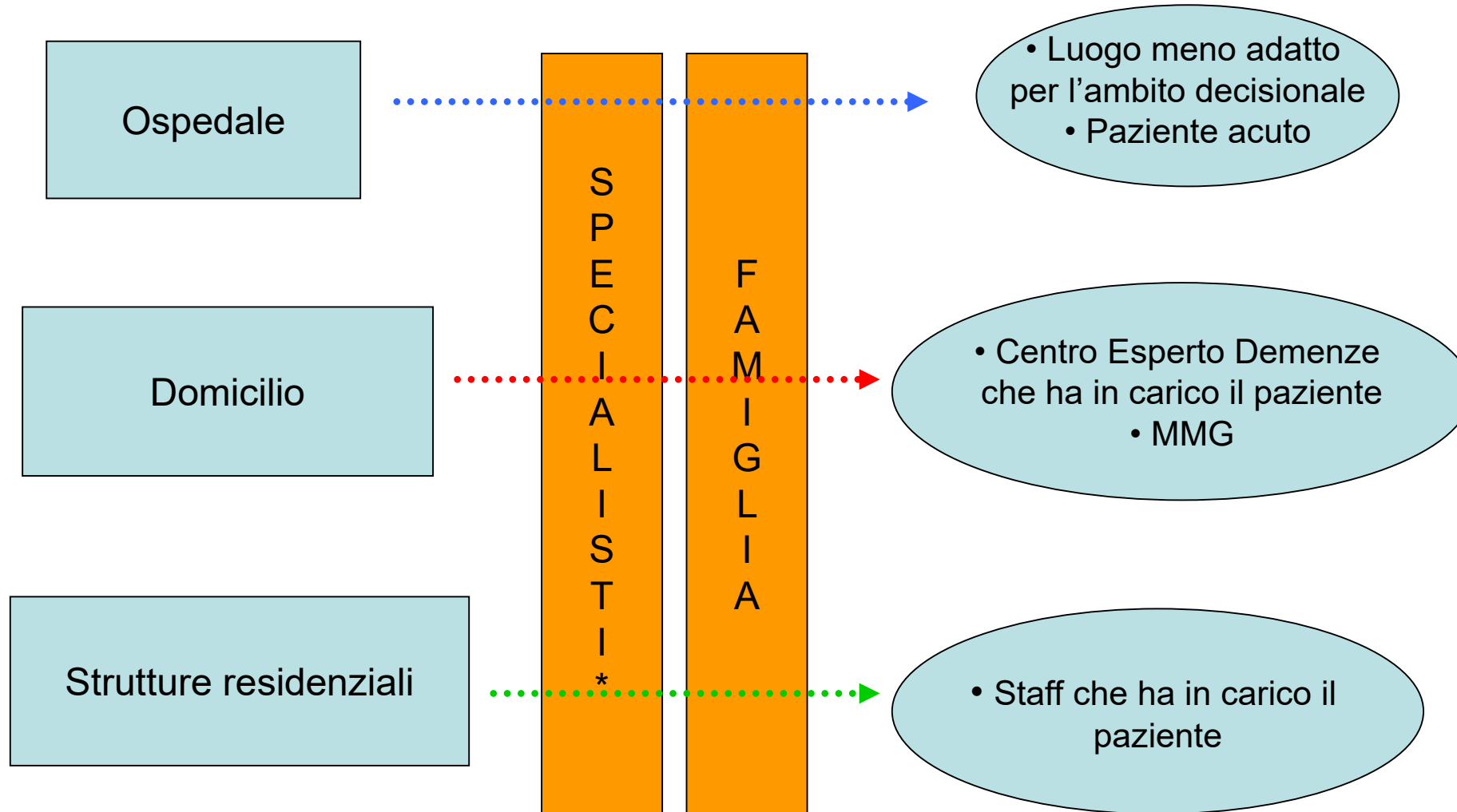
- ANORESSIA

- Pazienti compromessi
- Fasi avanzate di malattia
- Rifiuto all'alimentazione

2) Quale paziente ?



3) Quale setting e quale ambito decisionale ?



* Nutrizionista, Neurologo, Geriatra, Deglutologo , Endoscopista...

Indicazioni alla N.A.:

1

Paziente che non può alimentarsi

2

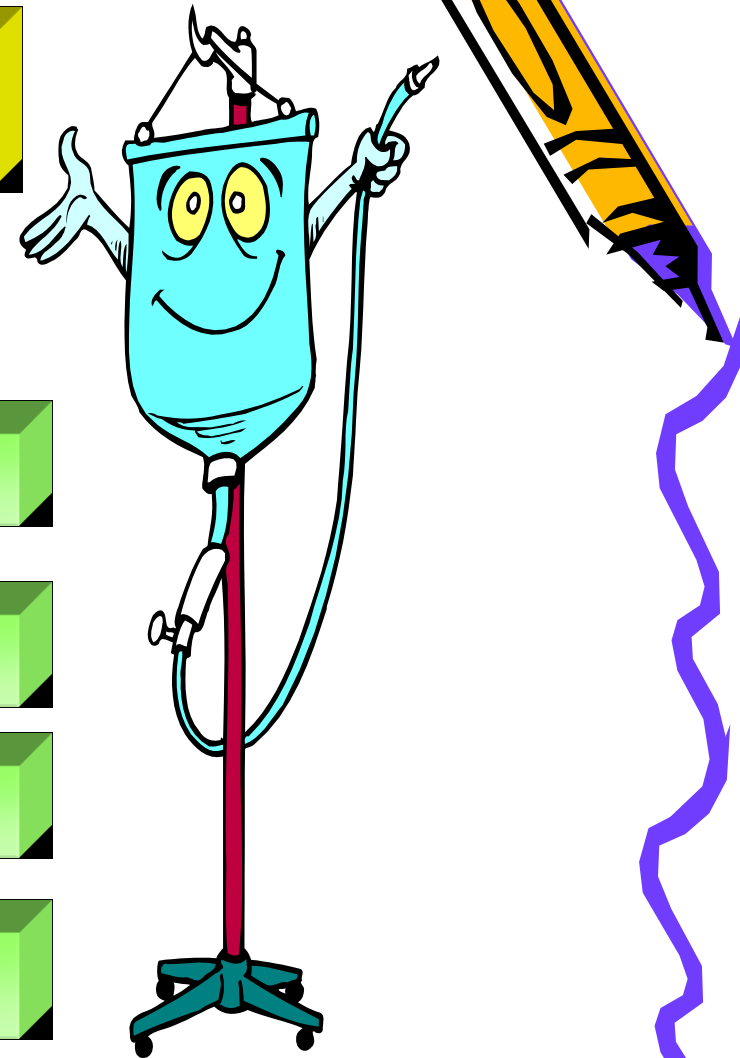
Paziente che non vuole alimentarsi

3

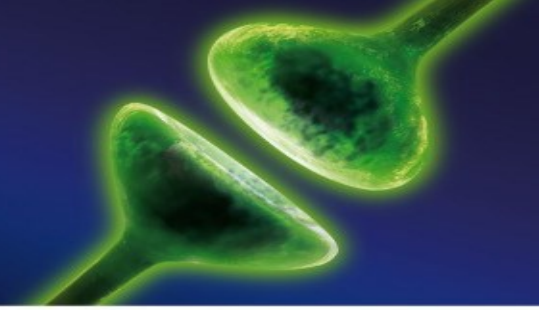
Paziente che non deve alimentarsi

4

Richiesta di fabbisogni di energia e nutrienti aumentati



Synapse loss is structural basis of functional deficits in AD

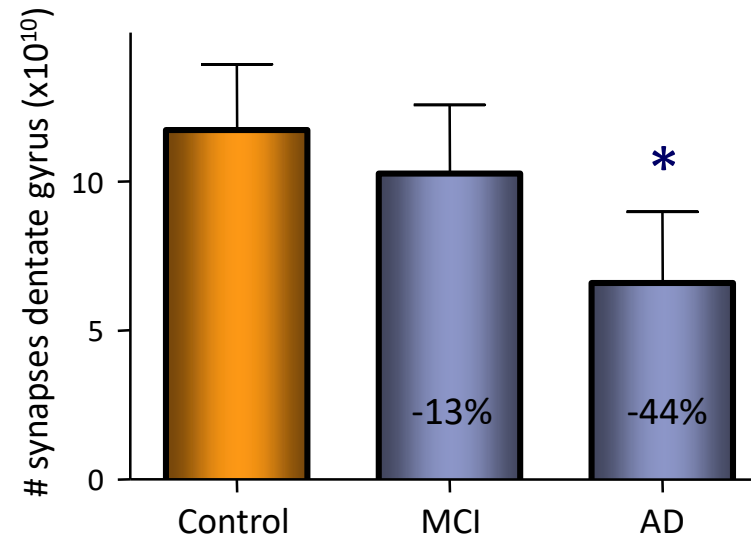


Physical Basis of Cognitive Alterations in Alzheimer's Disease: Synapse Loss Is the Major Correlate of Cognitive Impairment

Robert D. Terry, MD,* Eliseo Masliah, MD,* David B. Salmon, PhD,* Nelson Bowers, PhD,† Richard DeTeresa, BS,* Robert Hill, PhD,* Lawrence A. Hansen, MD,* and Robert Kemman, MD*

Terry RD, Masliah E, Salmon DB, Bowers N, DeTeresa R, Hill R, Hansen LA, Kemman R. Physical basis of cognitive alterations in Alzheimer's disease: synapse loss is the major correlate of cognitive impairment. *Ann Neurol*. 1991;30:572-580

Reduced number of synapses



VIEWPOINT

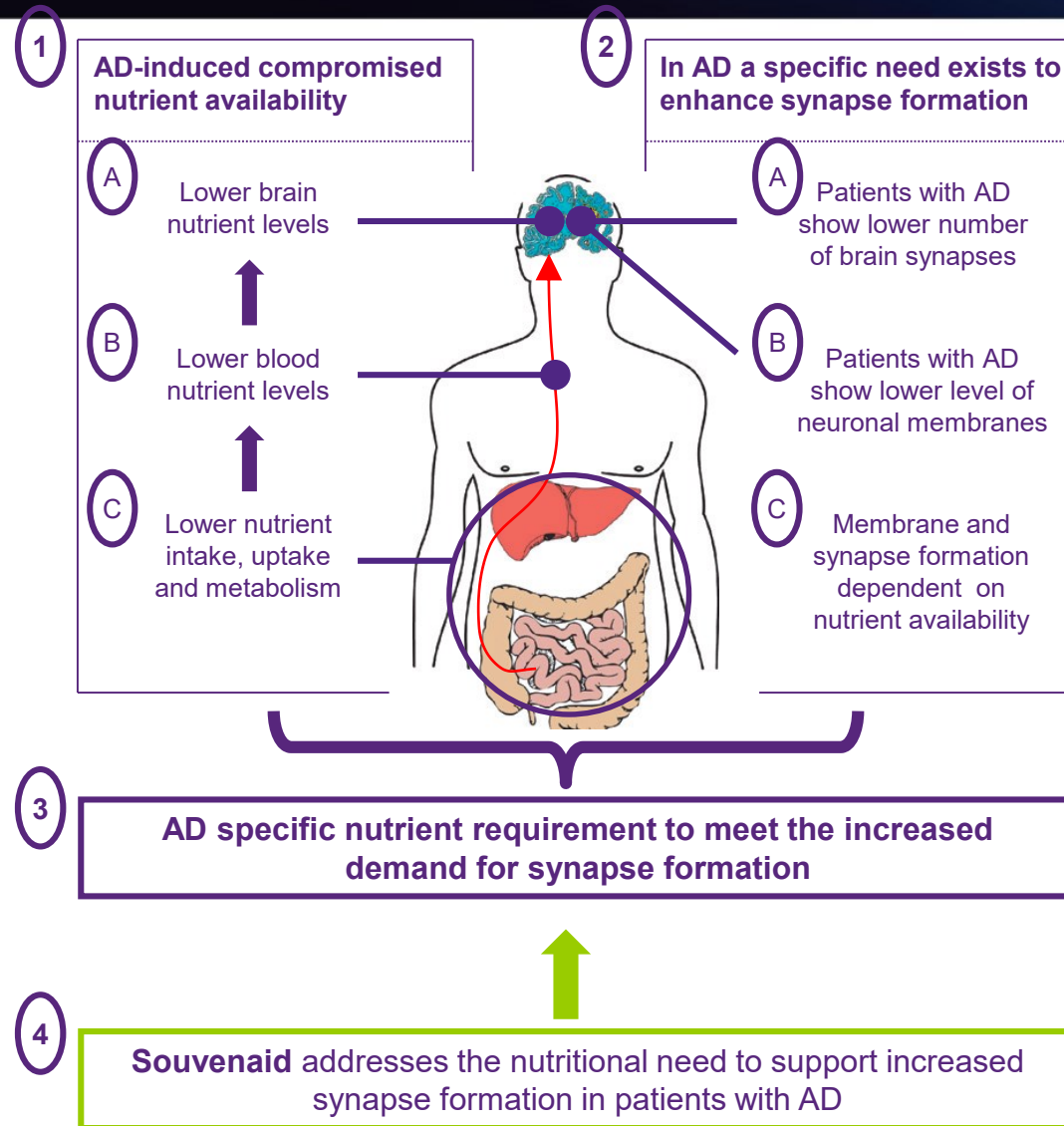
Alzheimer's Disease Is a Synaptic Failure

Dennis J. Selkoe

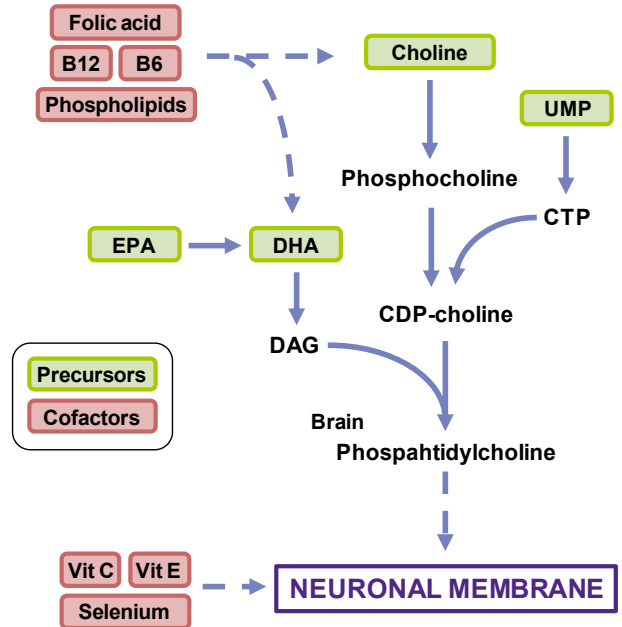
SCIENCE VOL 298 25 OCTOBER 2002

Synapse loss in AD is confirmed in >30 publications

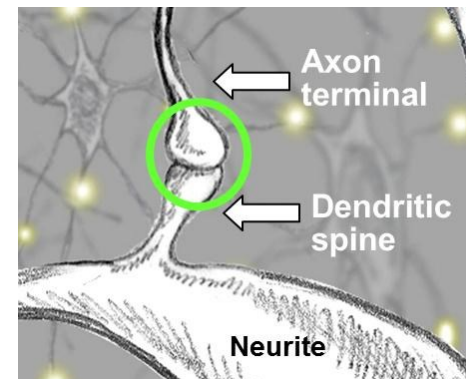
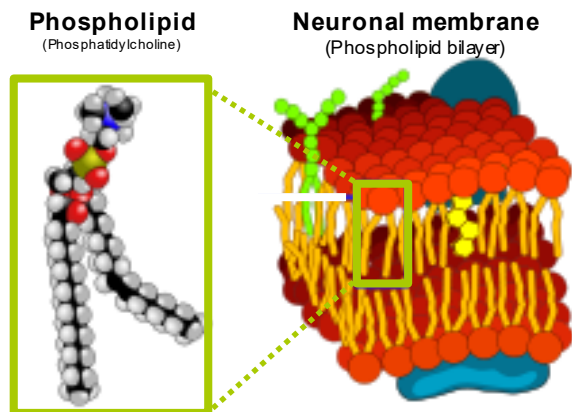
AD specific nutritional needs for membrane and synapse formation



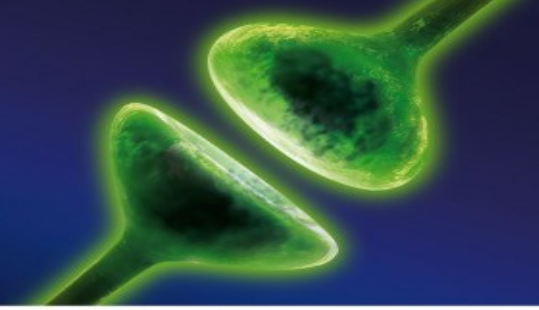
Nutritional precursors and cofactors: enhanced availability by Fortasyn Connect



- Synapses are continuously being remodeled
- Synapses are part of the neuronal membrane
- Membranes consist of phospholipids
- Phospholipid synthesis depends on the presence of uridine, choline and DHA
- B-vitamins enhance precursor bioavailability
- Antioxidants protect the neuronal membrane and maintain its integrity, stability and function



Precursors and cofactors enhance synapse formation and function – basic science data



Journal of Alzheimer's Disease 38 (2014) 459–479
DOI 10.3233/JAD-130998
IOS Press

459 next

Review

Targeting Synaptic Dysfunction in Alzheimer's Disease by Administering a Specific Nutrient Combination

Nick van Wijk^{a,*}, Laus M. Broersen^a, Martijn C. de Wilde^a, Robert J.J. Hageman^a, Martine Groenendijk^a, John W.C. Sijben^a and Patrick J.G.H. Kamphuis^{a,b}

^a*Nutricia Advanced Medical Nutrition, Nutricia Research, Utrecht, The Netherlands*

^b*Utrecht Institute for Pharmaceutical Sciences (UIPS), Utrecht University, Utrecht, The Netherlands*

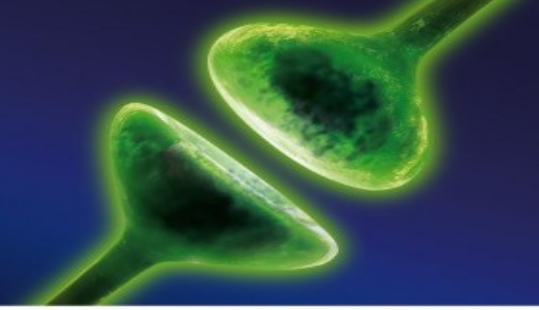
- **improve learning & memory / behavior**

11,13-17

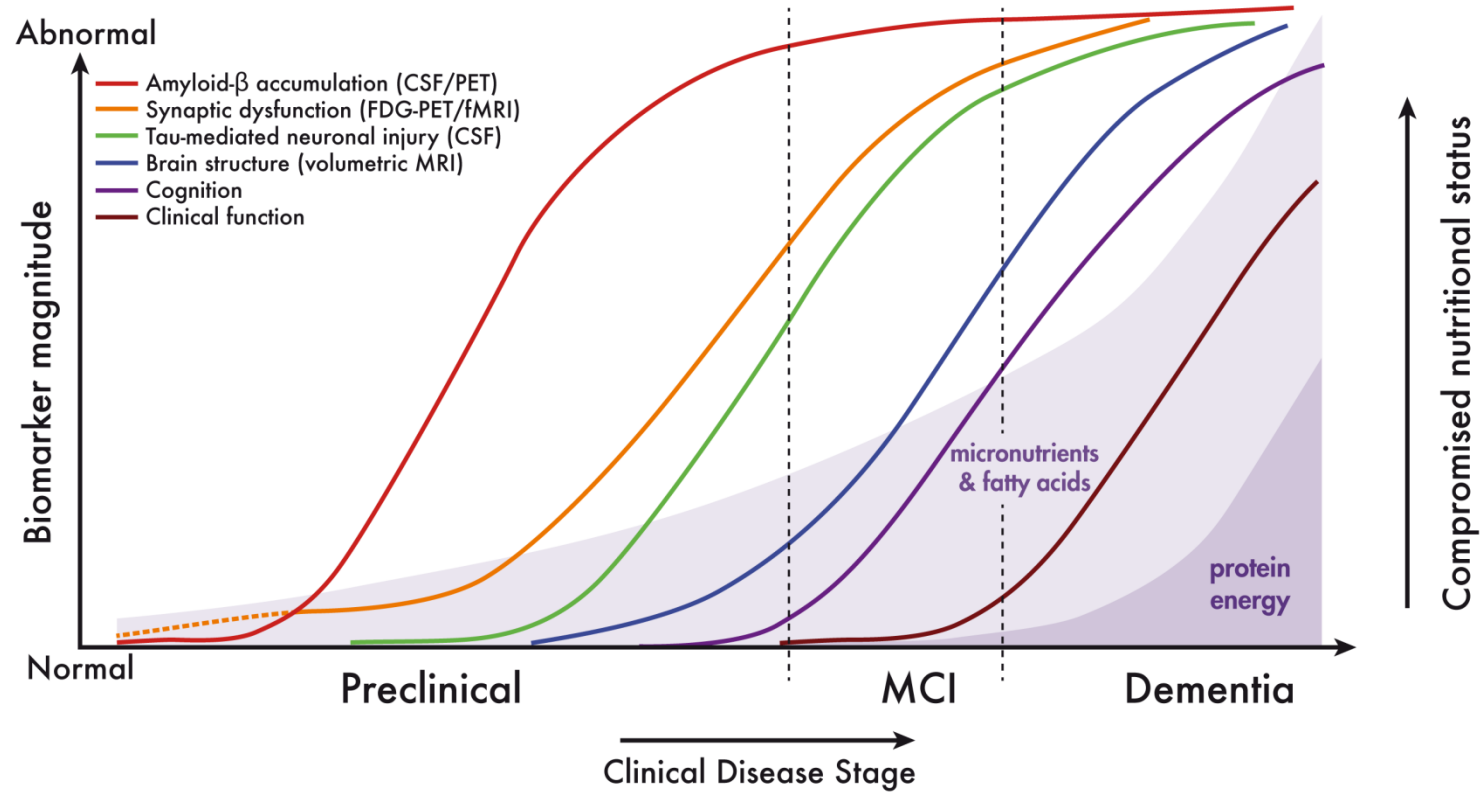
17,22,23-31

1.Cansev (2005) Brain Res	8.Sakamoto (2007) Brain Res	15.de Wilde (2002) Brain Res	22.Jansen (2013) PLOS ONE	29.Jansen (2013) Brain Struc Fun
2.Ulus (2006) Cell Mol Neurobiol	9.Farkas (2002) Brain Res	16.de Bruin (2003) J Learn Mem	23.Broersen (2013) J Alz Dis	30.Koivisto (2013) in press
3.Van Wijk (2011) Br J Nutr	10.Wang (2007) Brain Res	17.Holguin (2008) BehavBrainRes	24.Savelkoul (2012) AAIC	31.Wiesmann (2013) JAD
4.Van Wijk (2012) Nutr Metab	11.Kariv-Inbal (2012) JAD	18.van Wijk (2014) JAD	25.Zerbi (2013) Neurobiol Aging	
5.Wurtman (2006) Brain Res	12.Grimm (2011) JBC	19.de Wilde (2011) J Alz Dis	26.Savelkoul (2011) ADPD	
6.Wang (2005) J Mol Neurosci	13.Teather (2003) PNBP	20.Cansev (2012) data on file	27.Verheijen (2012) data on file	
7.Pooler (2005) Neuroscience	14.de Wilde (2003) Brain Res	21.Cansev (2013) data on file	28.Savelkoul (2012) J Neurochem	

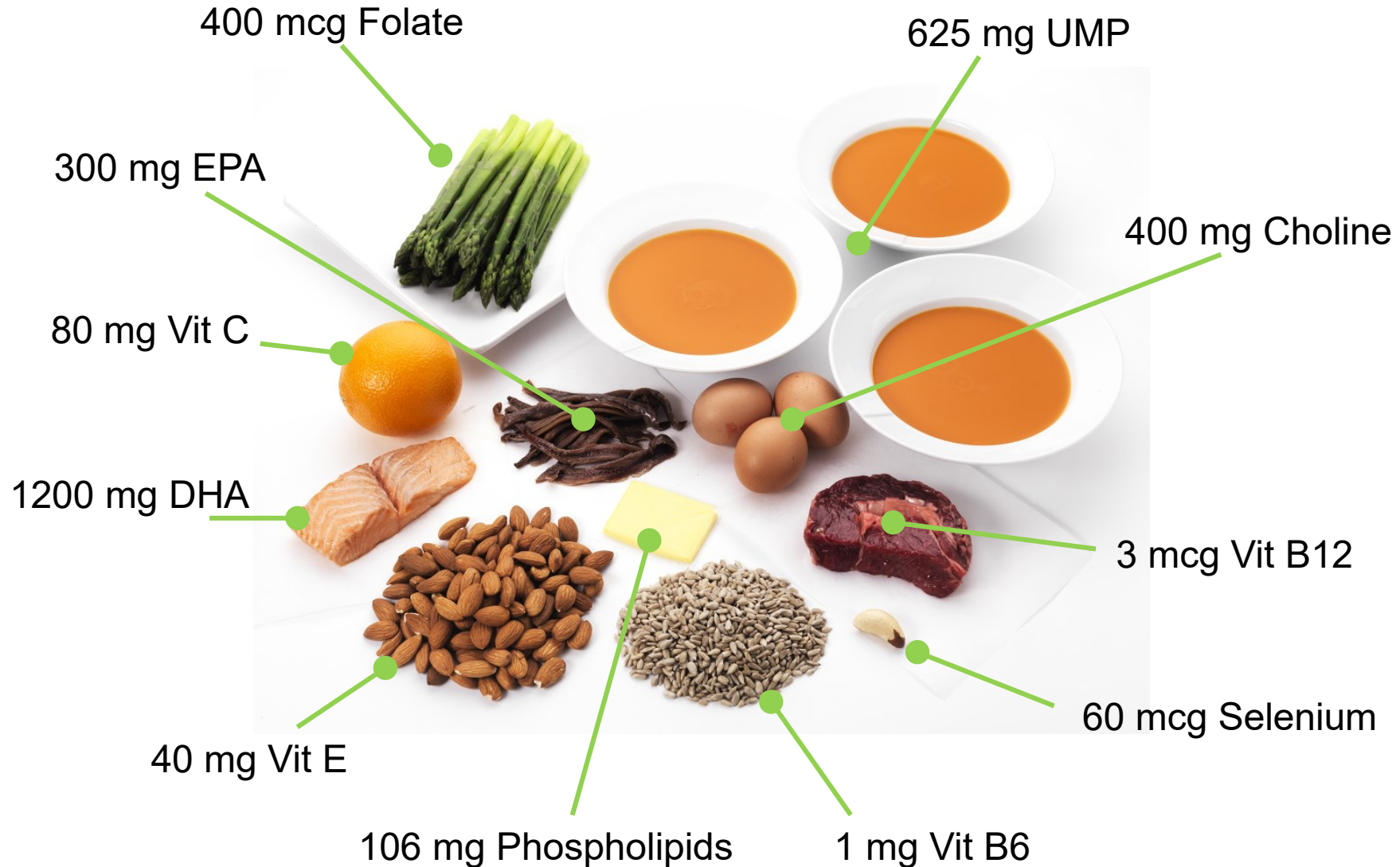
Lower nutrient status preceding classic protein energy malnutrition



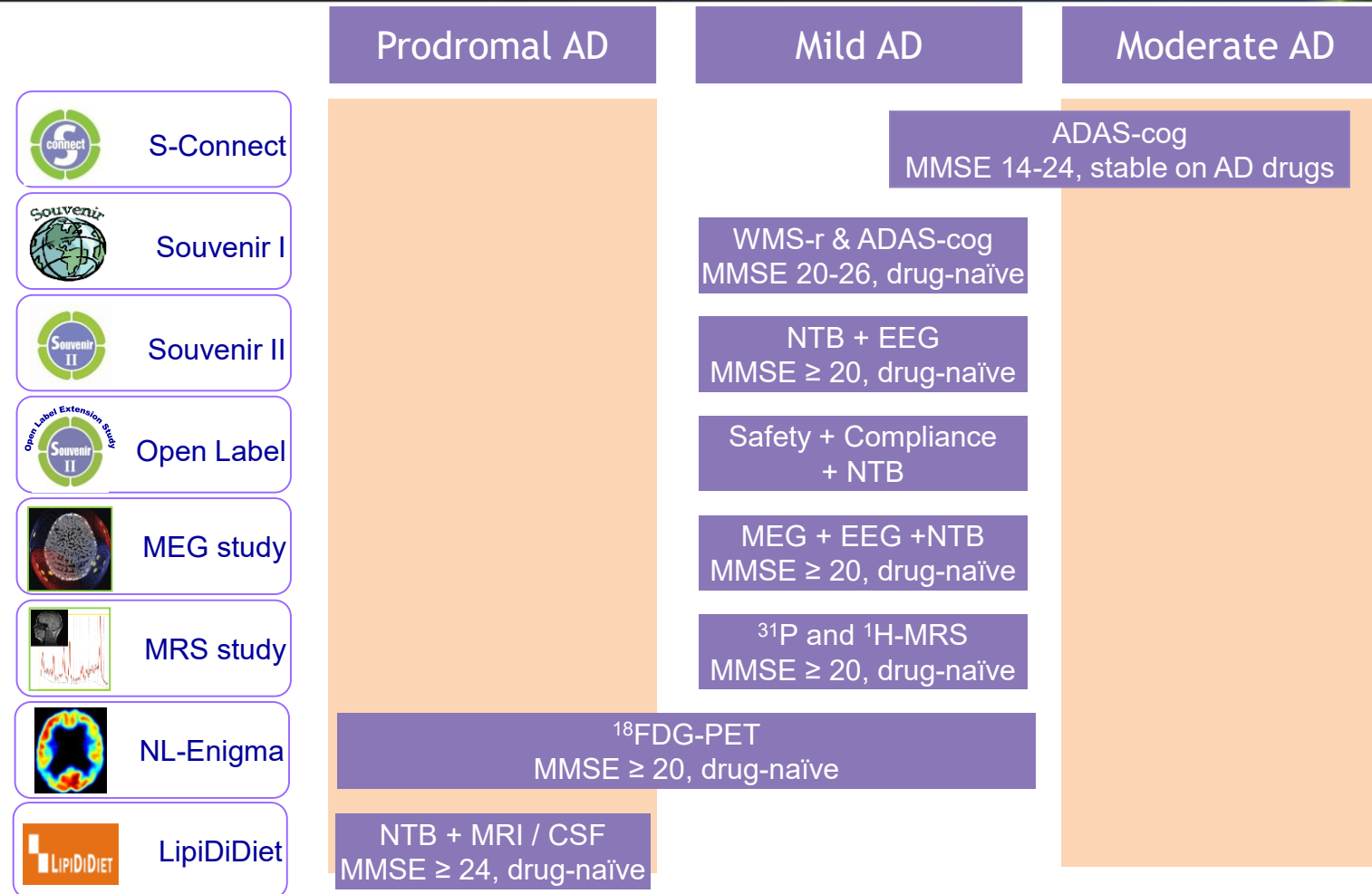
Epidemiological relate dietary patterns with AD risk



Development of Souvenaid: addressing AD specific requirements



Souvenaid Clinical Development



Souvenir I received funding from NL STW
 Souvenir II receives funding from the NL Food & Nutrition Delta project, FND N°10003
 LipiDiDiet is funded by the EU FP7 project LipiDiDiet, Grant Agreement N° 211696
 NL-Enigma funded by NWO NIHC project, N°057-13-003.

