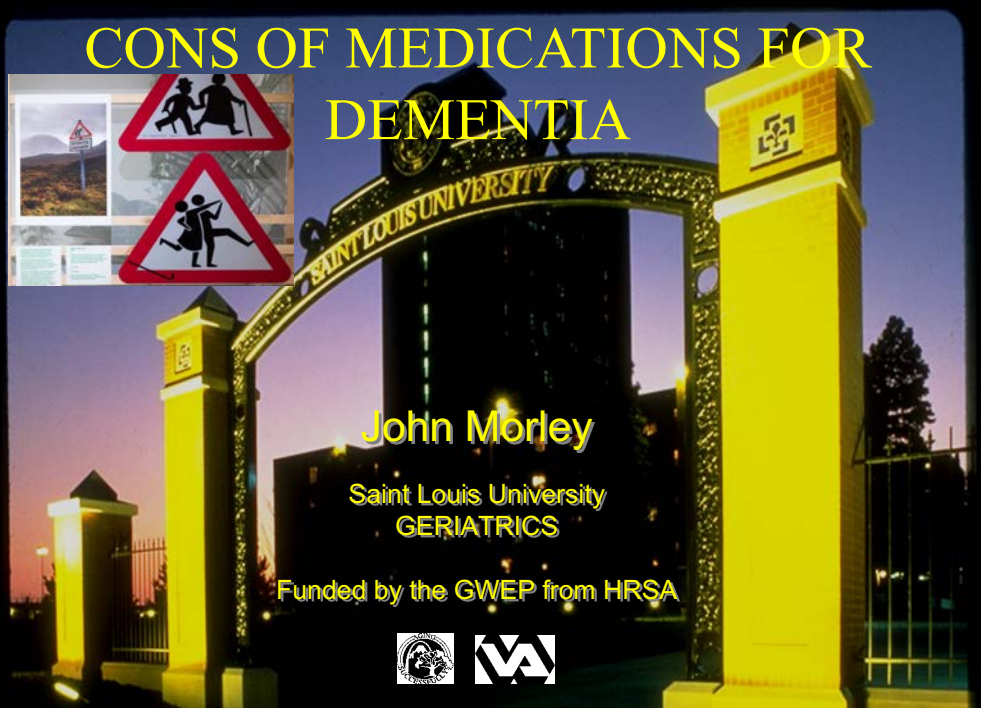



# CONS OF MEDICATIONS FOR DEMENTIA



John Morley  
Saint Louis University  
GERIATRICS

Funded by the GWEP from HRSA



1

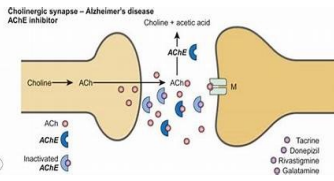


*"Memory is a passion  
no less powerful or pervasive  
than love."*

Elie Wiesel  
*"All Rivers Run to the Sea"*



2



Cholinesterase inhibitors can slightly delay the loss of brain function in people who have mild to moderate Alzheimer's disease.

- Positive effect on thinking skills and memory in about 14 out of 100 people who use it
- Research hasn't shown that cholinesterase inhibitors help people with Alzheimer's cope better in everyday life.
- Most of these studies lasted for six months at the most, so it's difficult to see what the effects of long-term use would be. 5 year Swedish study showed ChEI use was associated with higher MMSE score (0.13 MMSE points)
- Cause side effects like nausea, vomiting, loss of appetite, dizziness or diarrhea. Depending on which medication they take, about 1 to 3 out of 10 people feel nauseous or vomit.

3

**Implications of all the available evidence: HZ and Tdap vaccinations in Veterans and civilians were associated with a reduction in new onset dementia.**

### Herpes Zoster Vaccination and Dementia

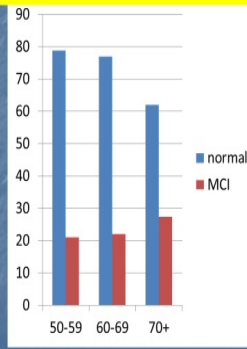
Subgroup	Weighted HR (95% CI)	Q-Value
VHA - Overall HZ vaccine	0.69 (0.67-0.72)	0.0002
VHA - HZ vaccine by Age (q= .0002)		
65-69	0.61 (0.54-0.68)	0.0002
70-74	0.83 (0.76-0.91)	0.0002
75+	0.66 (0.63-0.68)	0.0002
VHA - HZ vaccine by Race (q= .436)		
White	0.69 (0.67-0.72)	0.0002
Black	0.70 (0.62-0.78)	0.0002
Other	0.51 (0.33-0.78)	0.004
MarketScan - Overall HZ vaccine	0.65 (0.57-0.74)	0.0002
MarketScan - HZ Vaccine by Age (q= .008)		
65-69	0.95 (0.72-1.25)	0.708
70-74	0.66 (0.50-0.88)	0.006
75+	0.56 (0.46-0.68)	0.0002

### Tdap Vaccination and Dementia

Veterans Health Affairs Cohort	MarketScan Cohort			
	Crude	Weighted	Crude	Weighted
All ages	0.53 (0.50-0.56)	0.58 (0.54-0.63)	0.58 (0.50-0.66)	0.58 (0.48-0.70)
Age 65-69	0.64 (0.55-0.73)	0.68 (0.57-0.81)	0.80 (0.61-1.05)	0.77 (0.58-1.03)
Age 70-74	0.59 (0.49-0.71)	0.45 (0.36-0.56)	0.74 (0.54-1.02)	0.58 (0.37-0.91)
Age ≥ 75	0.71 (0.65-0.77)	0.56 (0.51-0.62)	0.73 (0.59-0.90)	0.52 (0.40-0.68)

4

## Metformin, Cognitive Dysfunction and Diabetics



**OD in Diabetics Receiving Metformin**  
 0.51 (0.22-0.99); P<.05

*J Alzheimers Dis.* 2014;41(1):61-8.  
 Long-term metformin usage and cognitive function among older adults with diabetes

Metformin use showed a significant inverse association with cognitive impairment in longitudinal analysis (OR = 0.49, 95% CI 0.25-0.95).

### Diabetes is NOT related to Alzheimer's Pathology

2365 autopsied persons.

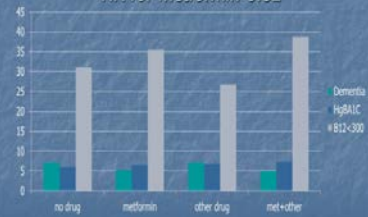
Individuals with diabetes were **less likely** to have  $\beta$ -amyloid (hazard ratio [HR] [95% confidence interval (CI)] was 0.46 [0.23-0.98]) and **tangles** (HR [95% CI] 0.72 [0.39-1.33]) but **more likely** to have **cerebral infarcts** (HR [95% CI] 1.88 [1.06-3.34])

Diabetes increased odds of **brain infarcts** (odds ratio [OR] = 1.57, P < .0001), specifically lacunes (OR = 1.71, P < .0001), but **NOT Alzheimer's disease neuropathology**

*Alzheimers Demen.* 2016  
 Diabetes is associated with cerebrovascular but not Alzheimer's disease neuropathology.  
*Renier EJ*

Diabetes (present in 15% subjects) was associated with an increased odds of infarction (OR = 2.47, 95% CI: 1.16, 5.24). Diabetes was not related to global AD pathology score, or to specific measures of neuritic plaques, diffuse plaques or tangles, or to amyloid burden or tangle density

### Dementia in Diabetes (VA) 11 year follow up, n=61010 HR for metformin 0.82



5

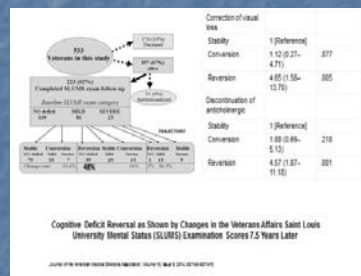
### The Patient Health Questionnaire-2 (PHQ-2)

Over the past 2 weeks, how often have you been bothered by any of the following problems?

	Not At All	Several Days	More Than Half the Days	Nearly Every Day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3

## Reversible Causes of MCI/Dementia

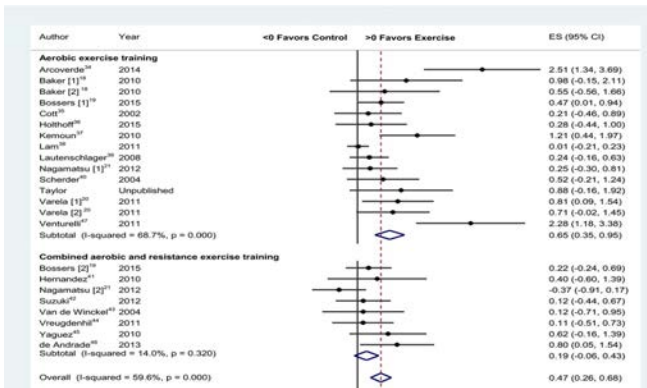
- D**rugs (anticholinergic)
- E**motional (depression)
- M**etabolic (hypothyroidism, B12)
- E**yes and ears (sensory isolation)
- N**ormal Pressure Hydrocephalus (ataxia, incontinence, and dementia)
- T**umor or other space-occupying lesion
- I**nfection (syphilis, chronic infections)
- A**trial fibrillation/Alcoholism
- S**leep, Apnea



6



## Can Exercise Improve Cognitive Symptoms of Alzheimer's Disease? A Meta-Analysis



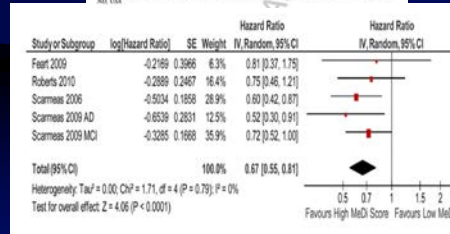
7

## Mediterranean Diet associated with reduced risk of Alzheimer's Disease

Association of Mediterranean Diet with Mild Cognitive Impairment and Alzheimer's Disease: A Systematic Review and Meta-Analysis

Balvinder Singh<sup>1,2</sup>, Ajay K. Parulkar<sup>3</sup>, Michelle M. Muth<sup>4</sup>, Patricia E. Unger<sup>5</sup>, David S. Knopman<sup>6</sup>, Ronald C. Petersen<sup>7</sup> and Ronald O. Roberts<sup>1,2\*</sup>

<sup>1</sup>Department of Neurology, Department of Health Sciences Research, Mayo Clinic, Rochester, MN, USA  
<sup>2</sup>Division of Epidemiology, Department of Health Sciences Research, Mayo Clinic, Rochester, MN, USA  
<sup>3</sup>Mayo Medical Education, Mayo Clinic, Rochester, MN, USA  
<sup>4</sup>Department of Clinical Neuroscience, University of North Dakota School of Medicine and Health Sciences, Fargo, ND, USA



RESEARCH PAPER  
 Mediterranean diet improves cognition: the PREDIMED-NAVARRA randomised trial

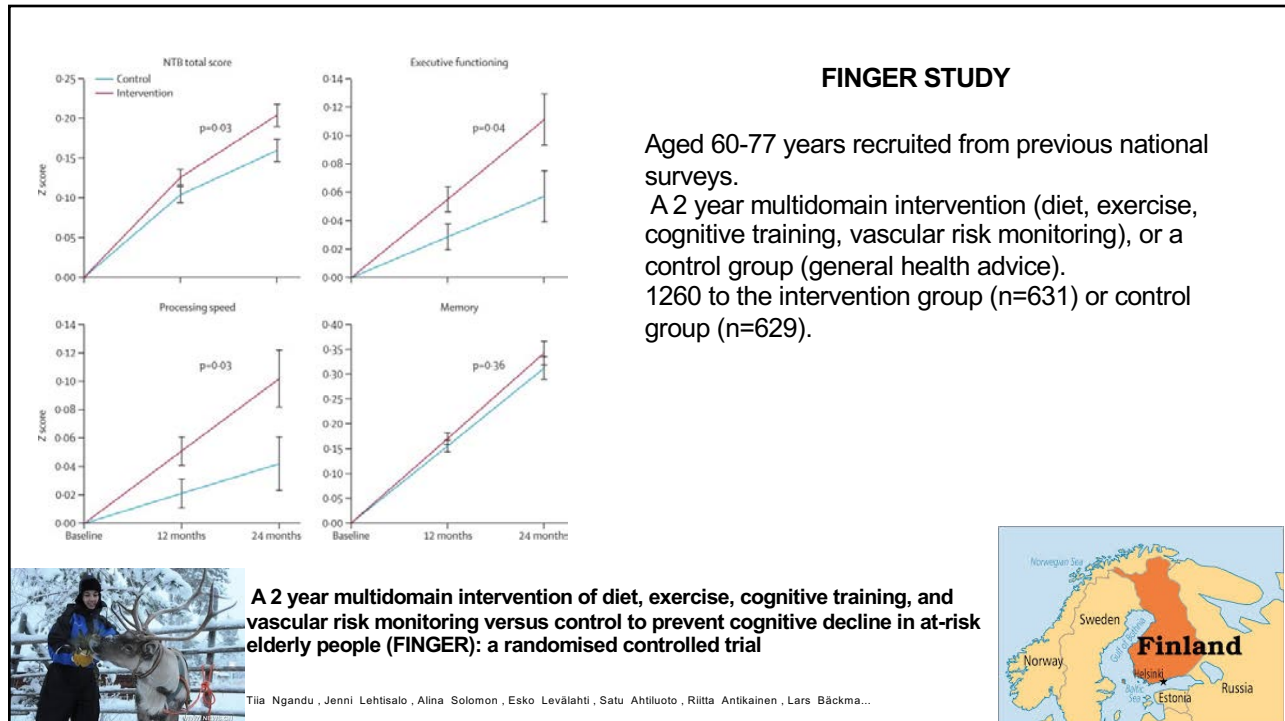
Elena H. Martinez-Lapostola,<sup>1,2</sup> Pedro Clavero,<sup>1,2</sup> Estefania Toledo,<sup>1,2</sup> Ramon Ezzamel,<sup>1,3</sup> and Sabin Sureda,<sup>1,4</sup> Raquel San-Juan,<sup>1,5</sup> Ana Sanchez-Barra,<sup>1</sup> Emilio Ros,<sup>1,2</sup> Ciria Valero-Pedret,<sup>1,2</sup> Miguel A. Martinez-Gonzalez<sup>1,2</sup>

Table 4 Multivariable-adjusted means after a 60-year follow-up and differences versus control (95% CI) in each intervention group

	MedDiet-EVOO (n=224)	MedDiet-Nuts (n=166)	Control (low-fat diet) (n=132)
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
MMSE	27.73 (27.27 to 28.19)	27.68 (27.20 to 28.16)	27.61 (26.61 to 27.61)
Adjusted diff. versus control (95% CI)	+0.62 (+0.18 to +1.05)	+0.57 (+0.11 to +1.03)	0 (reference)
p Value (vs control)	0.005	0.015	
CDT	5.31 (4.98-5.64)	5.13 (4.78-5.47)	4.80 (4.44-5.16)
Adjusted diff. versus control (95% CI)	+0.51 (+0.20 to +0.82)	+0.33 (+0.003 to +0.67)	0 (reference)
p Value (vs control)	0.001	0.048	



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9

**Improves Cognition**

NATIONAL GEOGRAPHIC CHANNEL  
BRAIN GAMES

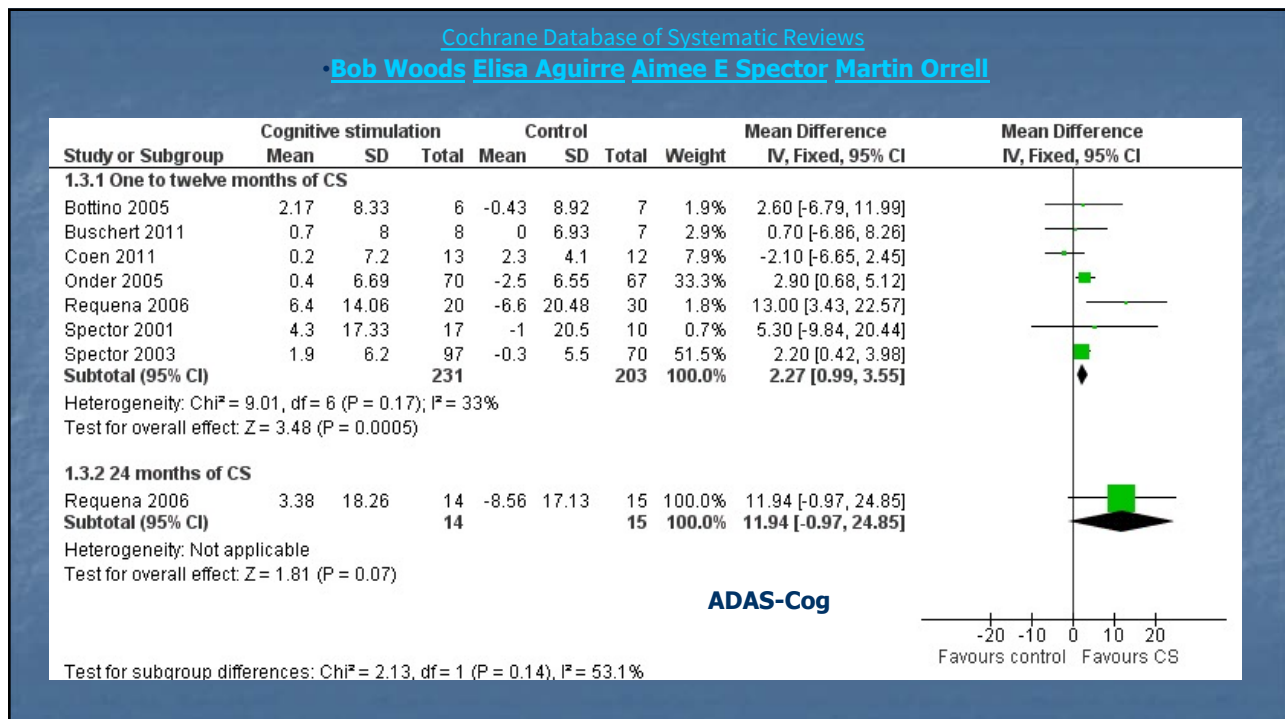
10

**Making a difference**  
An evidence-based group programme to offer cognitive stimulation therapy (CST) to people with dementia.  
The manual for group leaders  
Aimee Spector, Lane Thurgeman, Bob Woods, Martin Orrell  
Published by The Journal for Dementia Care

**Making a difference**  
An evidence-based group programme to offer maintenance cognitive stimulation therapy (CST) to people with dementia.  
The manual for group leaders  
Bob Agams, Aimee Spector, Amy Gossop, Julia Hill, Bob Woods, Martin Orrell  
Published by The Journal for Dementia Care

**Cognitive Stimulation Therapy : NHC Nursing Home**  
Mental Status  
Bar chart showing Mental Status scores for 12 months, 24 months, and Overall. Legend: CST (teal), Control (blue), Overall (grey).

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## Cardinals Reminiscence League

**TODAY'S SCORECARD**

AT BAT BALL STRIKE OUT H/E  
VISITOR HOME

*Jim told the group about riding a freight train to the Cardinal games in the '30s and being part of the "Knot Hole Gang". He is looking forward to talking about Stan Musial at our next meeting.*

**CARDINALS REMINISCENCE LEAGUE**  
*On Deck*

Next Meeting: (9/2)  
Location: Jefferson Barracks VA-Theater  
Time: 11 AM

Reminiscing with the Redbirds Cardinals  
Partnership between the St. Louis Cardinals & the Alzheimer's Association  
This book is property of St. Louis Cardinals  
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## Dementia : Best Practices

- Train health care professionals to use rapid screening test eg RCS
- Develop a computer assisted management algorithm to help health care professionals recognize treatable causes
- Provide a lifestyle modification (EXERCISE and MEDITERRANEAN DIET) to patient and family
- Check for caregiver stress in primary caregiver
- Provide CST programs

[www.cstdementia.com](http://www.cstdementia.com) and  
[www.aqing.slu.edu](http://www.aqing.slu.edu)

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