



Memory Preservation and Alzheimer's Prevention

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&WCH
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Toronto Memory Program

Questions?

- How much does memory change as we age?
- What is the difference between age-related memory loss and Alzheimer's disease?
- What factors promote brain health and protect against Alzheimer's disease?

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Interaction Between Aging & Memory

- Aging alone is associated with predictable changes in memory
- Age is *also* a major risk factor for diseases of memory such as Alzheimer's disease
- People are living longer and wish to maintain mental abilities & independence

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Am I developing Alzheimer's Disease?

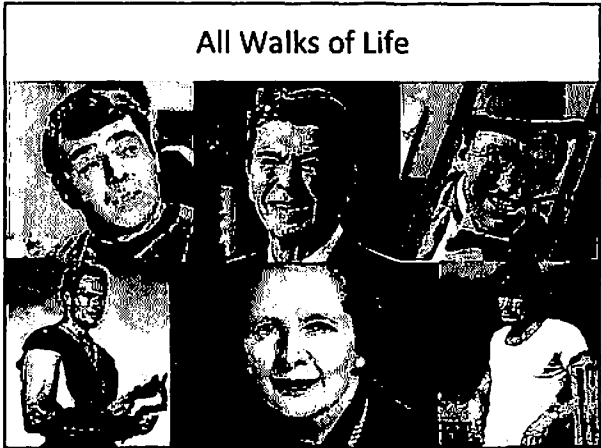


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Alzheimer's Disease versus Normal Aging

- Alzheimer's disease is not normal aging
- It leads to severe memory loss including for one's own biography, general information, skills and procedures
- It affects cognitive domains beyond memory, such as language, reasoning, object use, navigation
- It often affects mood and behaviour (apathy, depression, paranoia, agitation, wandering)


St. Joseph's Geriatric Memory Program



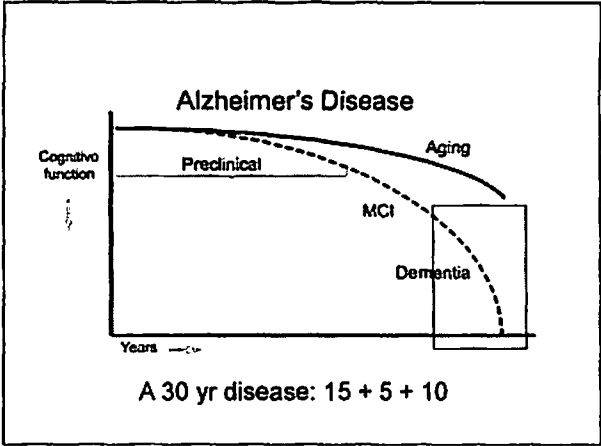
AD 1906: "a rare disease"



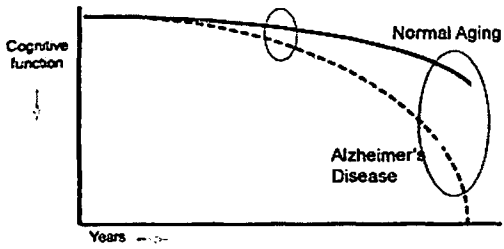
Dr. Alois Alzheimer



Auguste D. Age 51



Cognitive Change Over Time In Normal Aging and Alzheimer's Disease



Preventing Diseases of Memory

- Address memory symptoms
- Have your memory checked
- Adopt a brain healthy lifestyle
- Learn about prevention studies

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Ways To Support Memory

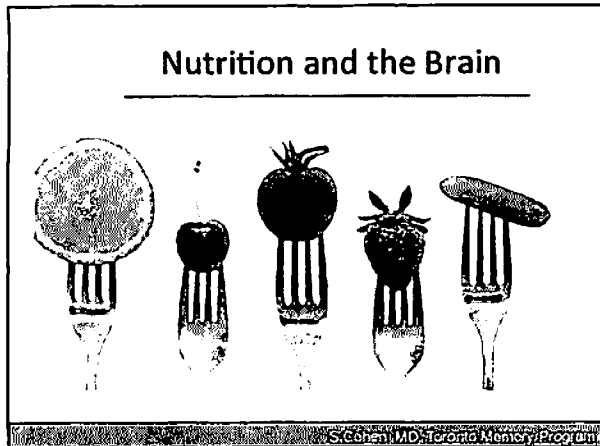
- Strategies to improve memory (encoding)
 - Spaced recall; associative learning; focus on relevance; diarize
- Strategies to compensate for memory
 - Use of routines, calendars, reminders, dosettes
- Building and maintaining memory capacity
 - Lifestyle modifications

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Physical Exercise

- improves blood flow to brain
- Increases chemicals involved in brain cell repair and new brain cell development
- improves sleep
- reduces psychological stress

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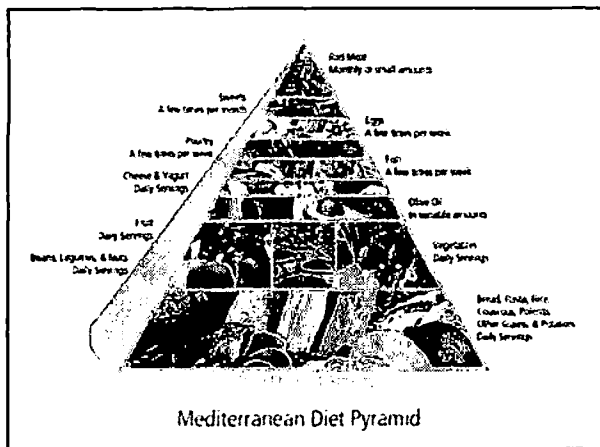


Nutrition & Memory Preservation

➤ Mediterranean diet is the gold standard and consists of a diet:

- High in salad dressing, nuts, fish, poultry, fruit, dark skinned and green leafy vegetables
- Low in red meat, dairy products, organ meat, butter, sugar

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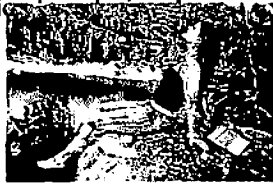
Sleep and Memory

- Sleep reorganizes new memories and converts them into more stable memory
- Sleep prunes away irrelevant details
- Sleep separates emotions from recall
- Sleep washes amyloid out of the brain

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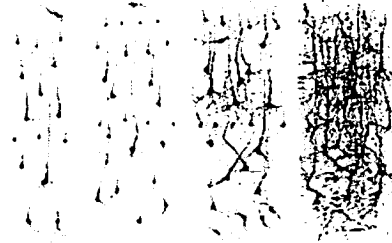
Mindfulness-Based Stress Reduction

- A 9 week course which teaches stress management using mindfulness and gentle stretching
- Shown to improve memory structures over just 9 weeks in addition to



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Enhancing Cognitive Reserve



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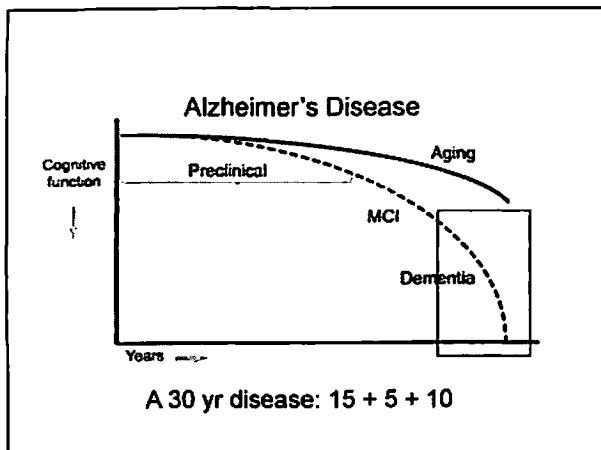
What About Medications to Improve Memory

- 4 drugs approved:
 - donepezil, galantamine, rivastigmine, memantine
- Standard of care for Alzheimer's disease
- Provide modest benefit to symptoms in 70% of individuals by boosting certain brain chemicals

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Existing Medications for AD

Just not powerful enough.
We need something more.



Non-Pharmacological Approaches

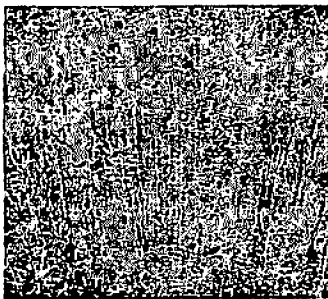
- Lifestyle modification to increase brain reserve
 - Dietary Pattern; Physical Exercise; Mental Exercise
 - Stress Management; Restorative Sleep
- Advanced Technologies to Support Aging
 - Smart homes; sensors; alarms; alerts; wearable technologies; robots; etc.

Compass-ND Study

- SCD (subjective cognitive decline) cohort
 - Cognitive stimulation
 - learning a new language
 - playing an musical instrument
 - Exercise and nutrition
 - Exercise program plus dietary education



Keep the brain beautiful!



Si Cohen, MD, UC Davis Memory Program