



Alzheimer's disease (AD) is the most common cause of dementia.

“Dementia” describes the progressive loss of thinking, memory, and other cognitive abilities impairing daily function.

In people over the age of 65, Alzheimer's disease accounts for over two-thirds of dementia cases.

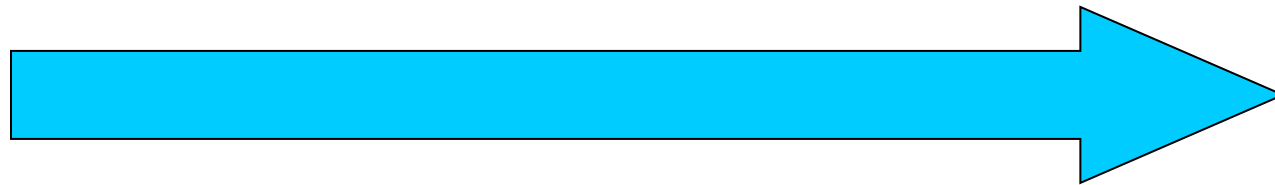
The most common symptom of AD - related dementia is a gradual worsening of memory

Other cognitive abilities such as orientation and use of language also worsen over time.

We know that characteristic changes occur in the brain many years before a person shows the symptoms of AD dementia.

# Alzheimer's Disease – a Continuum

- Pre-clinical stage
- Mild cognitive impairment/mild behavioral impairment
- Clinical stage



Cognitively  
Normal

Mild  
Cognitive  
Impairment

Dementia



# Alzheimer's Disease

- 5.8 million Americans currently live with Alzheimer's and other related dementias
- 1 in 9 people over the age of 65
- 1 in 3 people over the age of 85
- 500,000 new cases will be diagnosed in 2020
- Lifetime risk at age 45: 10% for men and nearly 20% for women
- Health care costs exceed \$305 Billion (2020)

# Pathological hallmarks of AD

# ALZHEIMER'S DISEASE

Biomarkers are the best window on the biology of

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# Biomarkers and Imaging

Jack et al. *Lancet Neurology* 2013

CSF: cerebrospinal fluid; AB42: amyloid beta 42-residue; PET: Positron Emission Topography; FDG: fluorodeoxyglucose;

Amyloid- $\beta$   
(PiB)

Tau  
(T807)

Alzheimer's  
Dementia  
De2.7 yTd (y)2B

# Biomarkers for AD: Blood

A blood-based biomarker represents the best avenue for preclinical AD

- Inexpensive
- Specialized equipment not required
- Readily obtained
- Minimal risk involved
- Suitable for large scale screening

# Why Prevention?

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# Rationale for Prevention Strategies

- Protecting intact neurons will be more feasible than repairing damaged ones
- Estimated 1/3 of risk for accelerated brain aging stems from genetic factors
- Minimal risk and general value of healthy lifestyle changes argue for initiating strategies prior to results from randomized clinical trials

Kahn RL, Rowe JW. *Successful Aging*. New York: Pantheon; 1998; Small GW. *BMJ*. 2002;324:1502-1505; Thoenen E. Prevention of Dementia. *Adv Neurol* 1998;163:33-36

# Why Participate?

- Contribute to groundbreaking research
- Work closely with world-renowned researchers
- Help scientists find a treatment for Alzheimer's disease that works for everyone
- Help your community

# Alzheimer's Disease: Modifiable Risk Factors

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# Brain Fitness Strategies

- Physical aerobic exercise
- Manage vascular risk factors
- Dietary antioxidants
- Low-fat, low carb diet
- Modest alcohol use
- Cognitive and social engagement
- Good sleep
- Correct hearing and vision impairment
- Dental health
- Stress reduction



# Helpful Habits

- Walk and talk
- Protect your head
- Vary your routine
- Be a lifelong learner
- Train your brain

The AD-CARE program thanks you for attending  
this presentation!