

DUKE DEMENTIA FAMILY SUPPORT PROGRAM

Caregiver Connections

An Educational Webinar Series With The Experts

**The presentation will begin shortly.
Thank you for your patience!**

dukefamilysupport.org

919-660-7510

HOW IS ALZHEIMER'S DIAGNOSED?

What's the
difference
between
dementia and
Alzheimer's
disease?

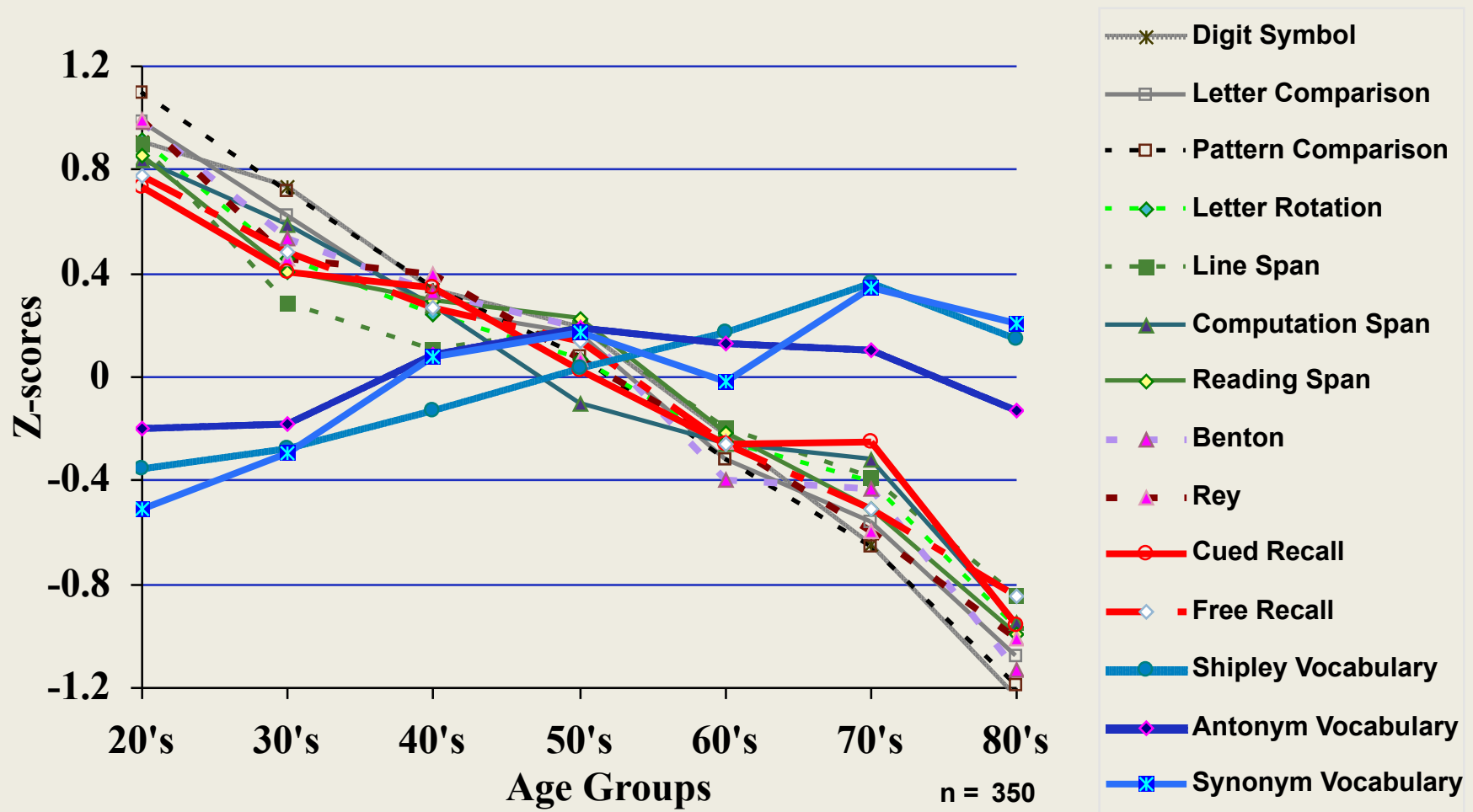
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Cognitive Behavioral Neurology
University of North Carolina Chapel Hill



FIRST, WHAT DEMENTIA IS NOT

Normal
Cognitive
Aging

PERFORMANCE ON MEASURES OF COGNITIVE ABILITY ACROSS THE LIFESPAN



Adapted from Park et al, Psychology and Aging, 1996

PROFILE OF BENIGN AGING



- Mildly slowed speed-of-processing
- Difficulty with “multi-tasking”
- Name-face recognition impairment
- Slowed retrieval of old information, and retrieval errors (“no, not Bette Davis ... the other one ... Greta Garbo”)
- A tendency to ramble (deficient inhibition)
- Begins noticeably in one’s 40’s and gets worse with each decade. Very few are immune.

COGNITIVE RESERVE



- Some individuals “age better” than others - better retention of cognitive faculties
- Partially due to less severe aging effects (everything from retained sensory function to better DNA repair mechanisms)
- But - part of this difference can be accounted for by education and IQ
- Many theories, including ↑ synaptic density, better facilitation at the cellular level, more efficient retrieval and inhibition mechanisms – this is a “hot” research area.

NOT ALL MEMORY LOSS IS THE SAME ...

- Forgets names of people or things
 - Forgets to remember (prospective memory)
 - Forgets immediate information (phone numbers, recipe quantities)
 - Forgets what s/he was doing if interrupted (goes to the bedroom to get x and can't remember what it was)
-
- Forgets verbal instructions/conversations
 - Forgets object locations (where did I leave the keys...the car?)
 - Forgets that s/he already said that (repeats self)

SO WHEN IS A DOCTOR NEEDED?

What is
dementia?

DEMENTIA IS



- Cognitive decline that has impaired one's daily activities or resulted in loss of functioning at work or at home.
- Not due to intercurrent illness, medication effects, or psychiatric disorder.
- A decline from one's presumed premorbid baseline by at least 2 standard deviations in at least 2 separate cognitive domains on neuropsychological testing, or an approximation of the above on clinical evaluation.
- A description or a category, not a diagnosis.
- Many people with dementia have a cause other than Alzheimer's disease, or more than one cause

ALZHEIMER'S IS

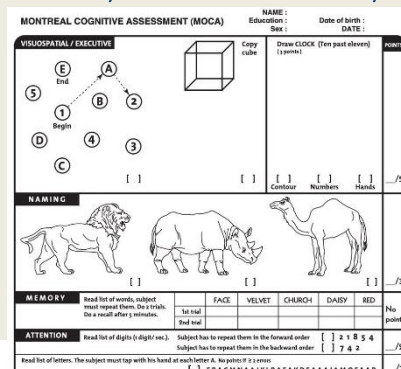


- A specific disease that can cause dementia
- A neurodegenerative disease that causes loss of neurons over time
- Associated with abnormally high levels of two neuronal proteins, beta-amyloid and tau
- Now understood to start up to 20 years before someone gets clinical symptoms
- Frequently has a transitional state, termed Mild Cognitive Impairment (MCI)
- **Not everyone with Alzheimer's disease has dementia**

DIAGNOSING DEMENTIA

What every
PCP
should
know

- 
- An illustration of two women sitting at a small, light blue table. The woman on the left has long dark hair and is wearing a red long-sleeved shirt and purple pants. She is gesturing with her right hand while speaking. The woman on the right has short brown hair and is wearing a blue t-shirt and green pants. She is listening attentively with her hands resting on the table. Both are sitting on light blue chairs with wooden legs. The background is a solid light beige color.



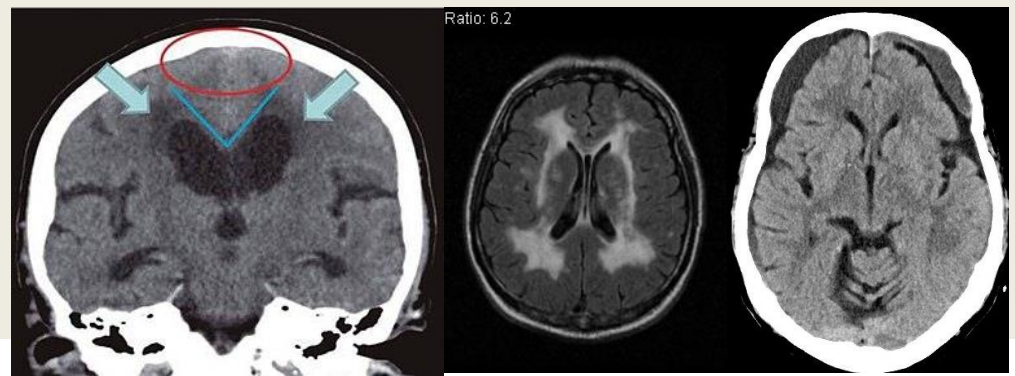
EVALUATION (WORKUP)

Look for, and exclude,
reversible causes of dementia:

- **Drugs**
- **Psychological**
- **Sleep disorders**
- **Medical illness**
- **Metabolic derangements**
- **Structural brain disease**

Examples

- Sleeping pills (including Benadryl), anti-anxiety medications, bladder-relaxers, opiates,
- Severe anxiety, depression, long-term psychiatric disorders
- Untreated sleep apnea, excessive daytime sleepiness of any cause
- Congestive heart failure, renal failure, poorly controlled diabetes,
- Thyroid disease, vitamin deficiencies, electrolyte imbalances

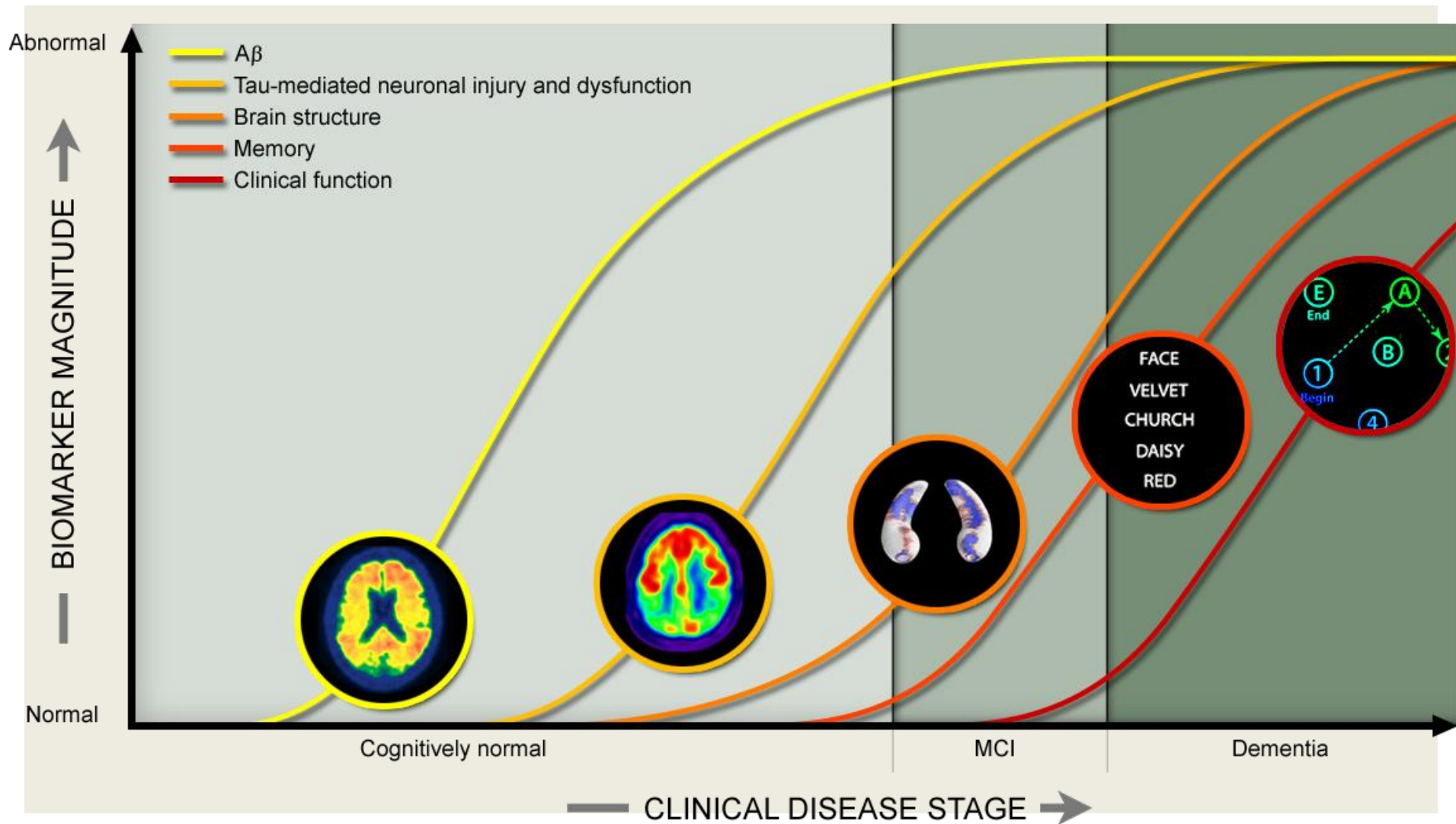


SUMMARY

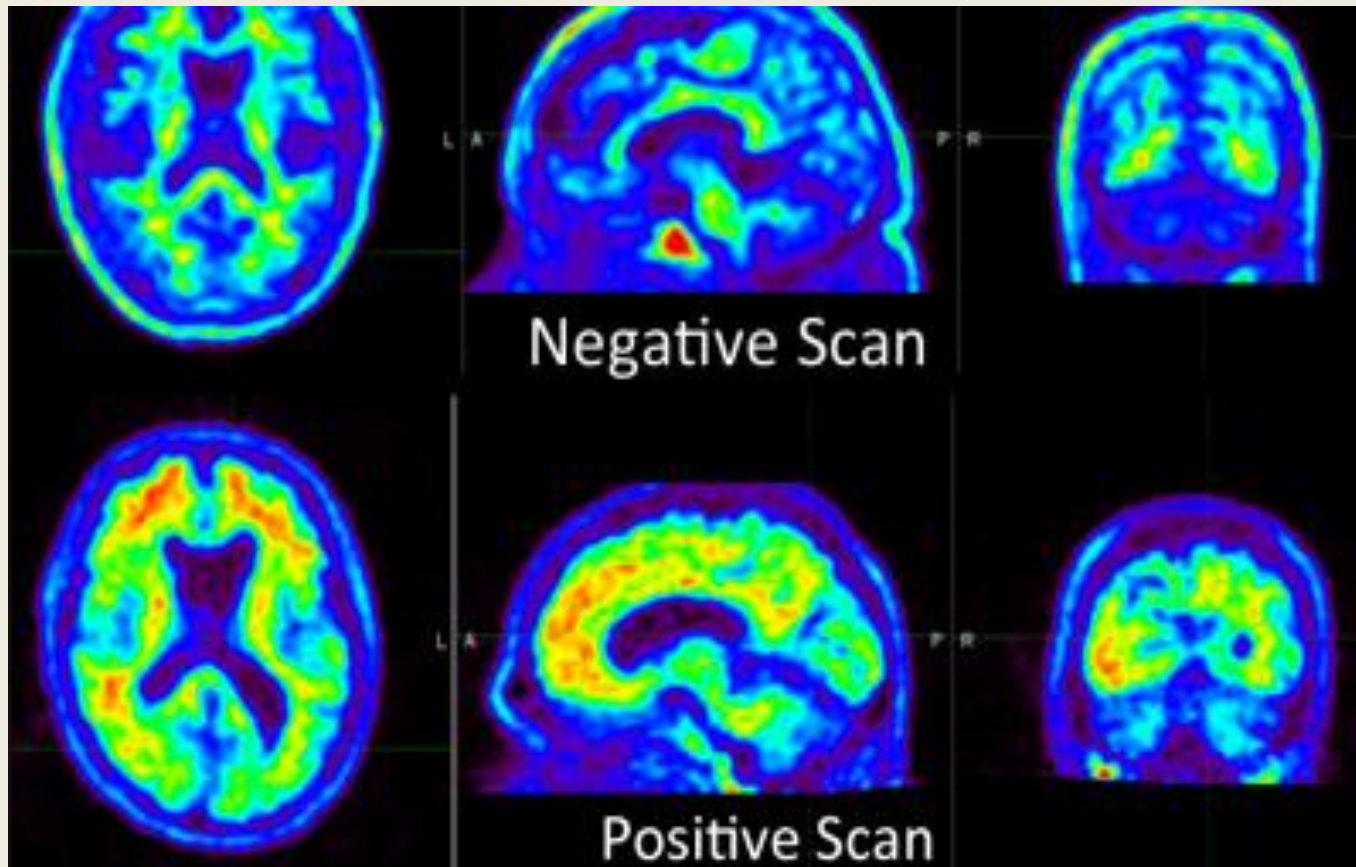
- Fix everything you can before drawing conclusions
- If the patient still meets criteria for dementia when you're done, **it's dementia**
- If the patient meets “old school” clinical criteria for Alzheimer's, it's Alzheimer's >80% of the time

DIAGNOSING DEMENTIA DUE TO ALZHEIMER'S

CURRENT MODEL OF ALZHEIMER'S DEVELOPMENT



AMYLOID PET SCAN



Pooled sensitivity and specificity of 90% and 84%, respectively, compared to autopsy verification of amyloid (not of Alzheimer's disease)

<https://doi.org/10.1016/j.jalz.2018.07.220>

B-AMYLOID ≠ ALZHEIMER'S



JAMA Neurology

View Article ▶

[JAMA Neurol.](#) 2018 Aug; 75(8): 970–979.

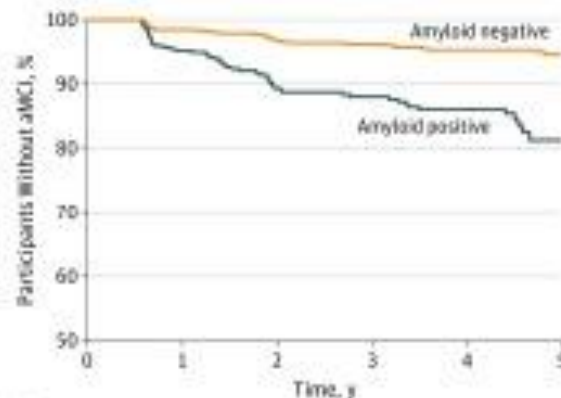
PMCID: PMC6142936

Published online 2018 Apr 30. doi: [10.1001/jamaneurol.2018.0629](https://doi.org/10.1001/jamaneurol.2018.0629)

PMID: [29710225](https://pubmed.ncbi.nlm.nih.gov/29710225/)

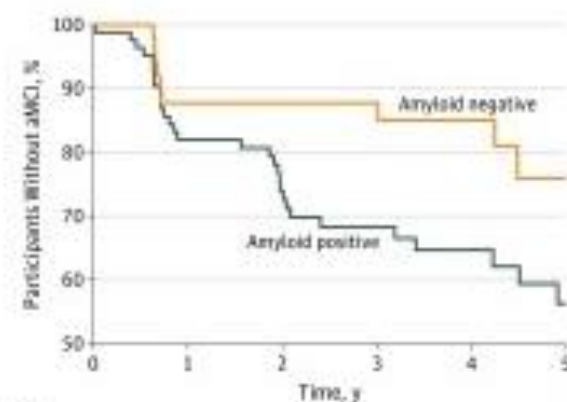
Prevalence and Outcomes of Amyloid Positivity Among Persons Without Dementia in a Longitudinal, Population-Based Setting

A Percentage of cognitively unimpaired participants with aMCI over time



No. at risk (events)	401 (0)	372 (19)	295 (39)	224 (43)	161 (48)	126 (56)
Amyloid positive	976 (0)	954 (15)	777 (29)	543 (33)	326 (38)	220 (40)
Amyloid negative						

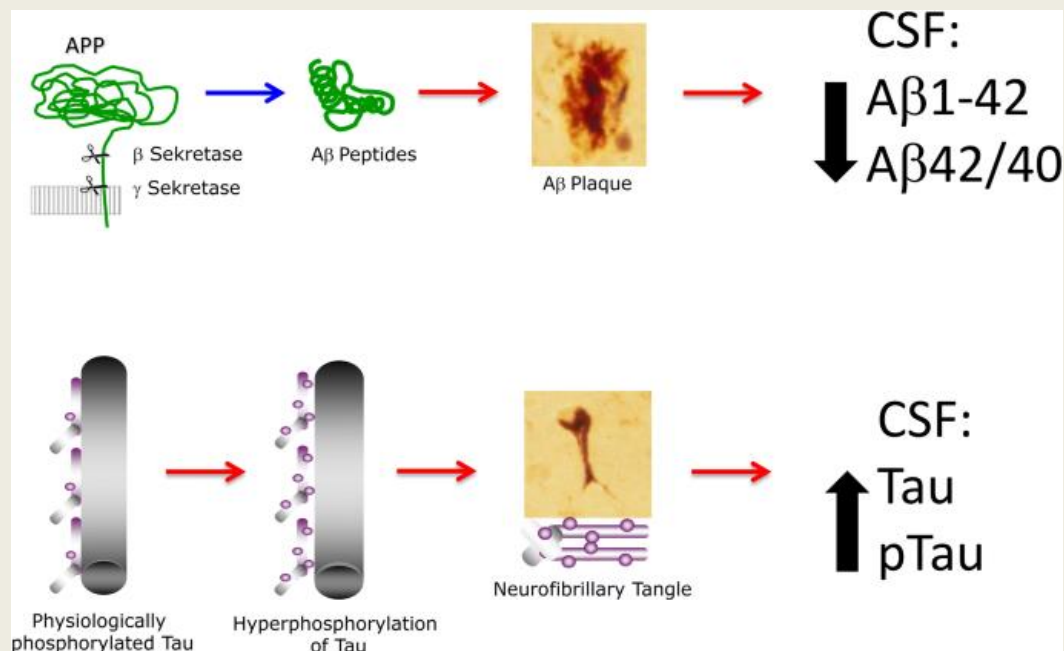
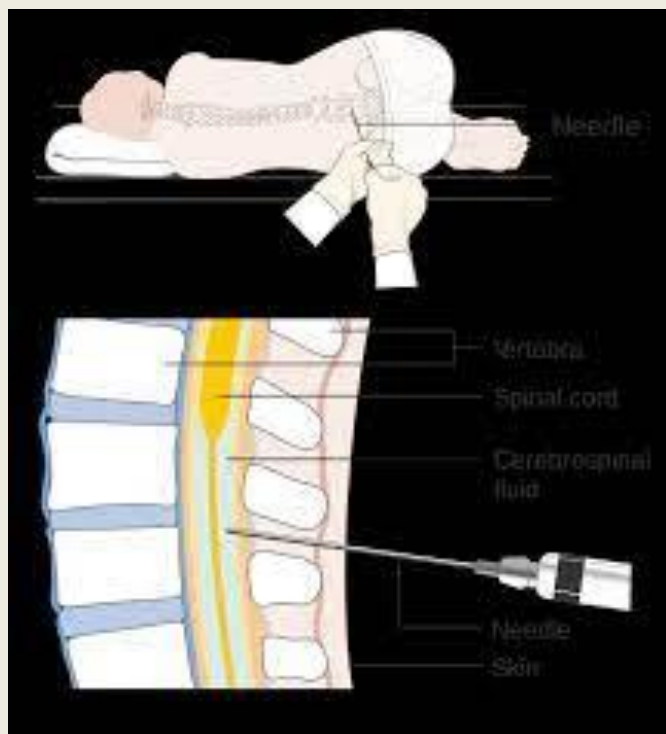
C Percentage of participants with aMCI without AD over time



No. at risk (events)	86 (0)	68 (15)	54 (21)	40 (25)	30 (27)	18 (30)
Amyloid positive	52 (0)	43 (6)	39 (6)	32 (6)	21 (7)	13 (9)
Amyloid negative						

CEREBROSPINAL FLUID TESTING

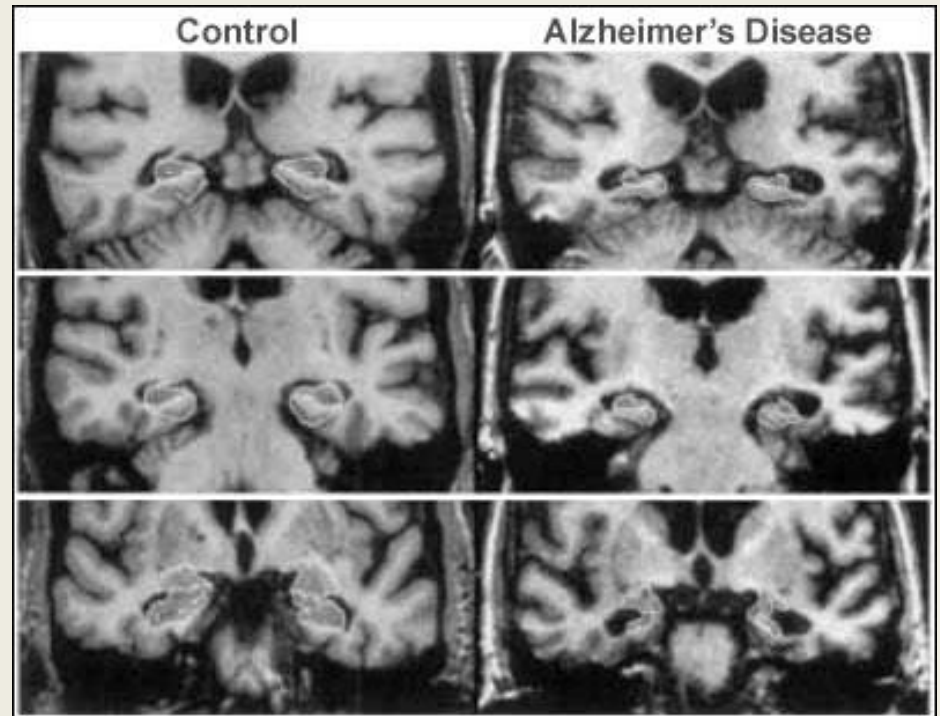
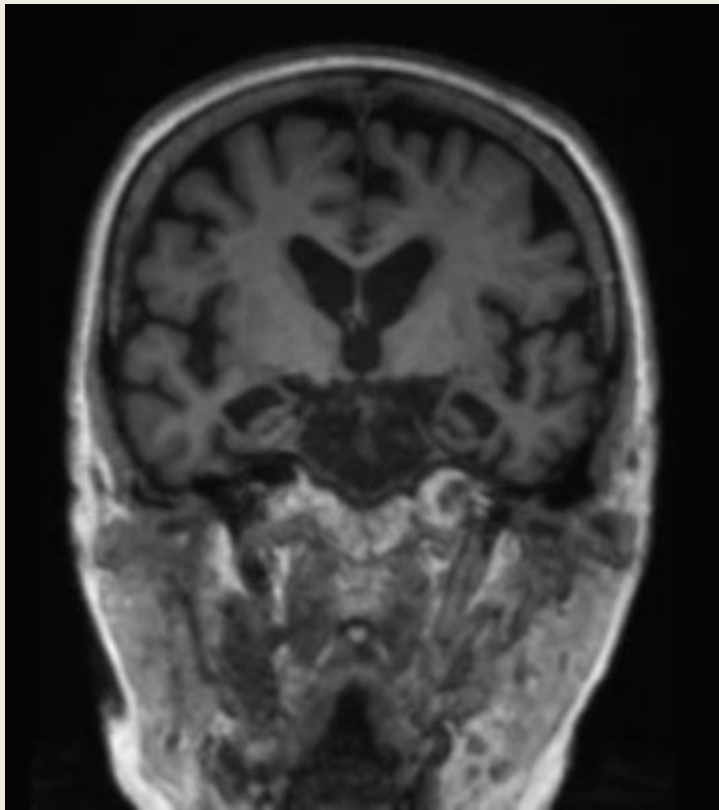
Alzheimer's = beta-amyloid + tau + neurodegeneration



Mean sensitivity 91.5%; Mean sensitivity 88%

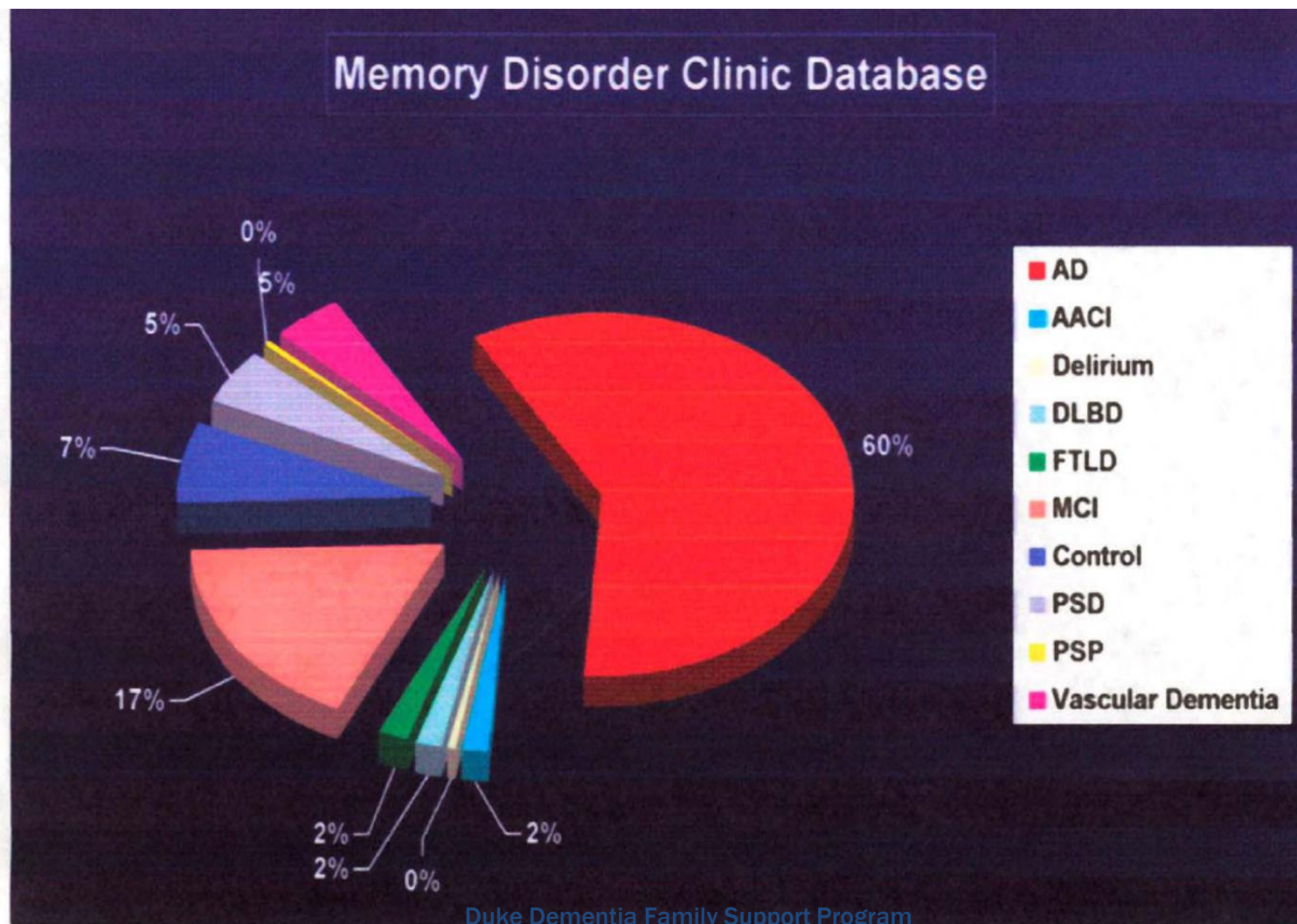
ALZHEIMER'S ON MRI

A pattern of neurodegeneration showing disproportionate atrophy in the medial temporal and superior parietal regions



WHY DOES IT MATTER?

NON-AD DEMENTIAS





NC Registry for Brain Health

<https://ncbrainhealth.org/>

PREVENTION
**KEEPING BRAINS HEALTHY AND
STRONG** *to reduce the risk of
Alzheimer's disease and other
dementias*

[Join The Registry](#)



A mailing list to connect people who are interested in getting involved in research
with enrolling studies throughout North Carolina

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**You Have Questions?
We have Answers!**



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