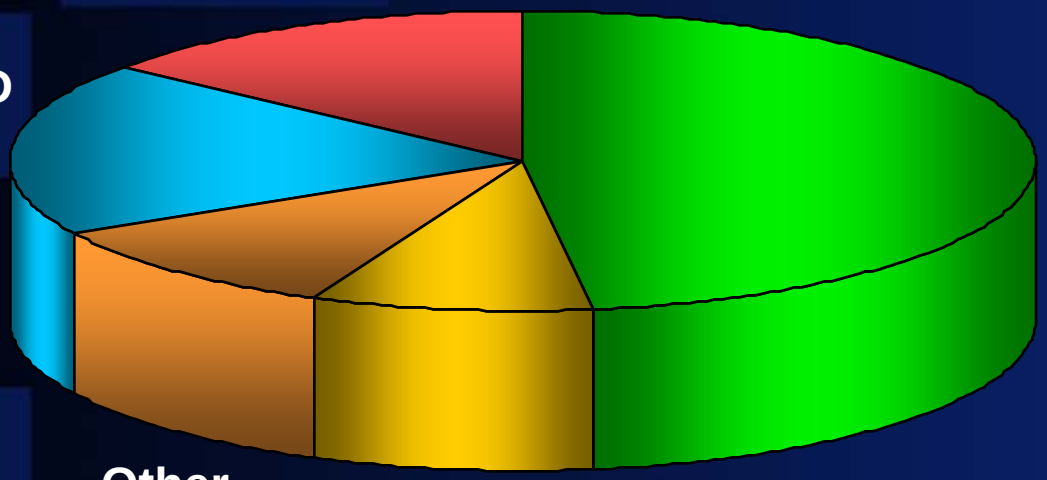
Alzheimer Dementia

Causes of Dementia



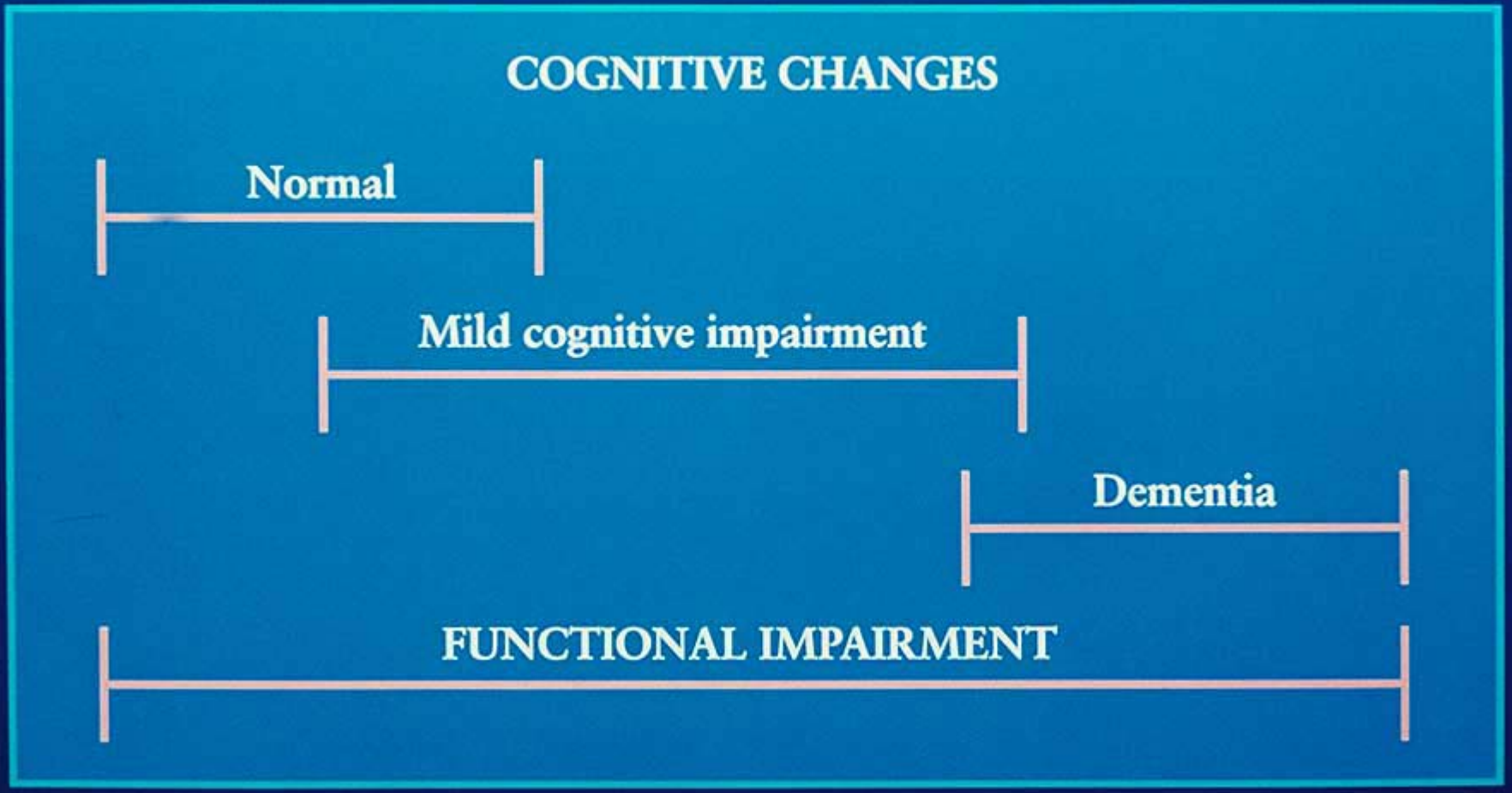
Feldman H et al. *Neuroepidemiology.*

Epidemiology of Alzheimer's Disease (AD)

- Alzheimer's disease mostly affects persons older than 65 years of age[1]
- Affects 10% of people > 65 years old[1]
- Affects 50% of people > 85 years old[1]
- If current trends continue, the incidence of AD could double every 20 years[2]

1. Evans DA et al. *Milbank Q.* 1990;68:267-289.
2. Canadian Study of Health & Aging Working Group. *Neurology*. 2000;

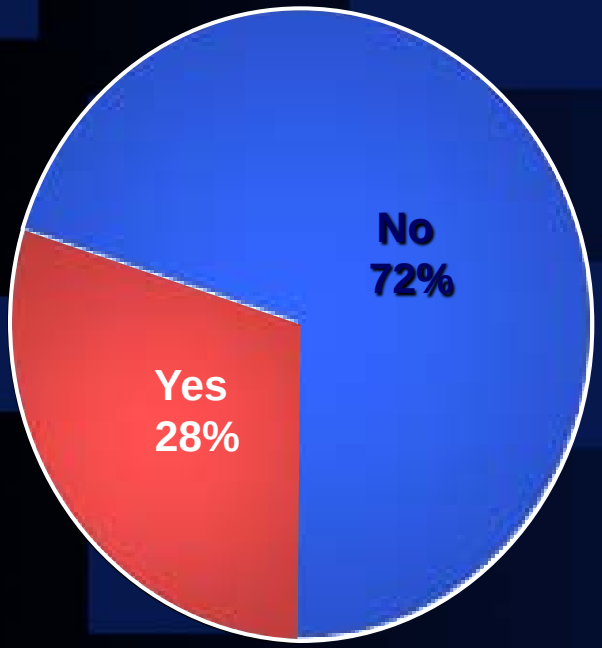
Continuum from normal aging to AD



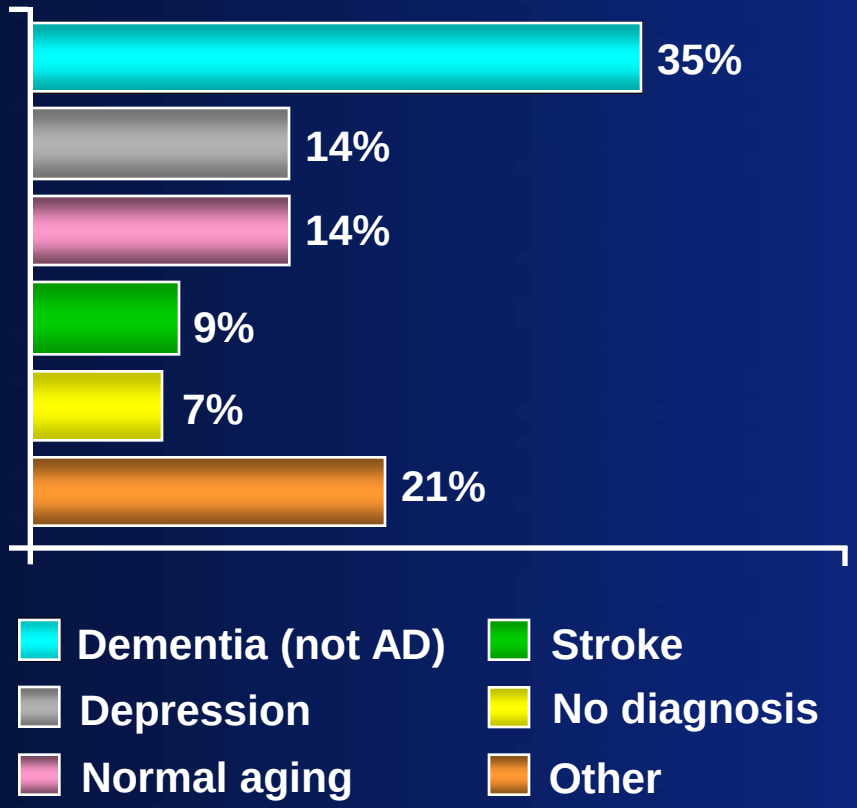
Petersen (1995)

AD is initially misdiagnosed...frequently !

Patient initially diagnosed with AD



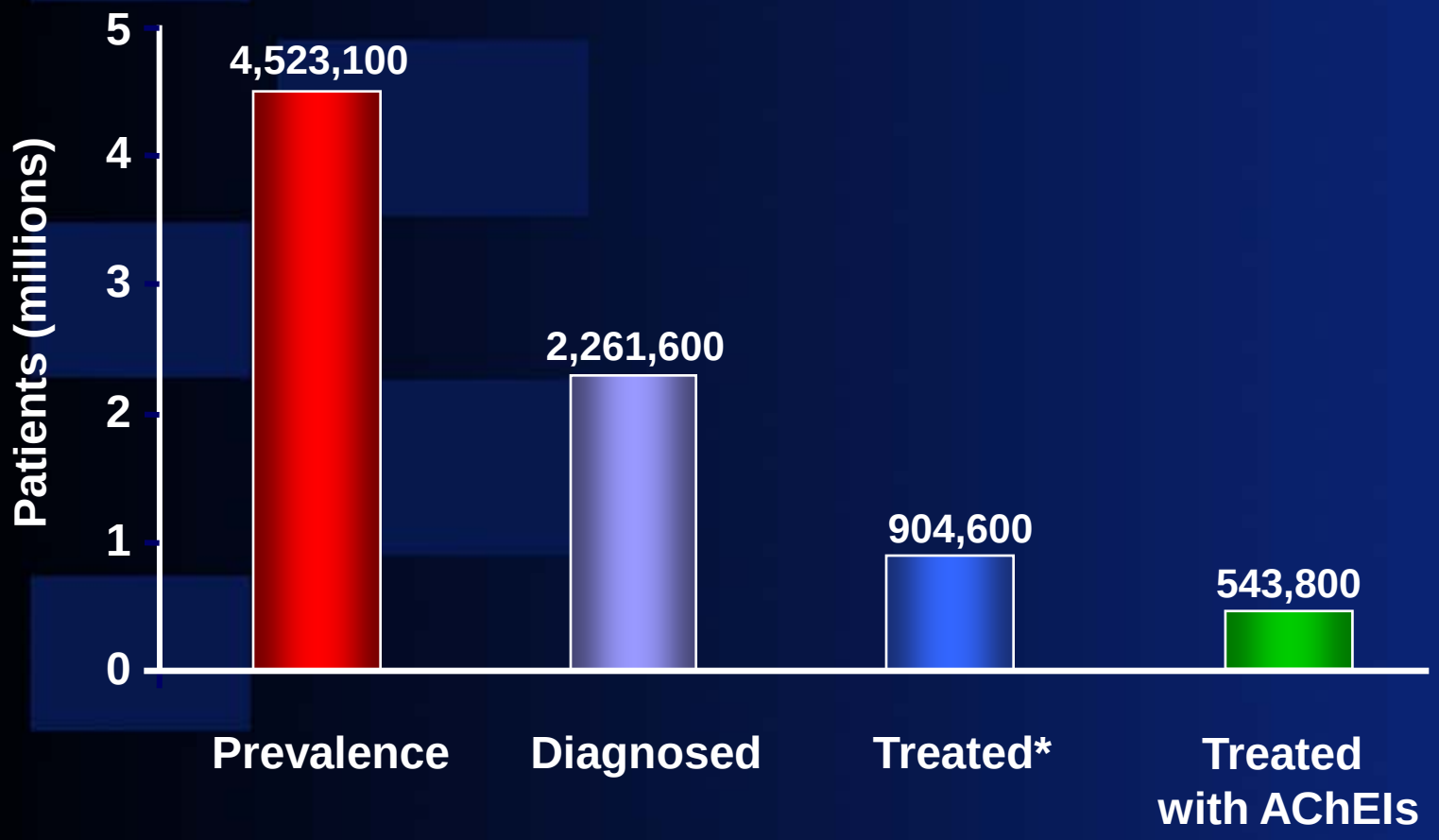
Patient's first diagnosis other than AD



Knopman D et al JAGS 2000 48(3) 300-4

Consumer Health Sciences, LLC. US Alzheimer's Association Caregiver Project. 1999.

Treatment of AD: The vanishing 50%…



* Any drug treatment, not limited to acetylcholinesterase inhibitors (AChEIs).

Source: Decision Resources, March 2000.

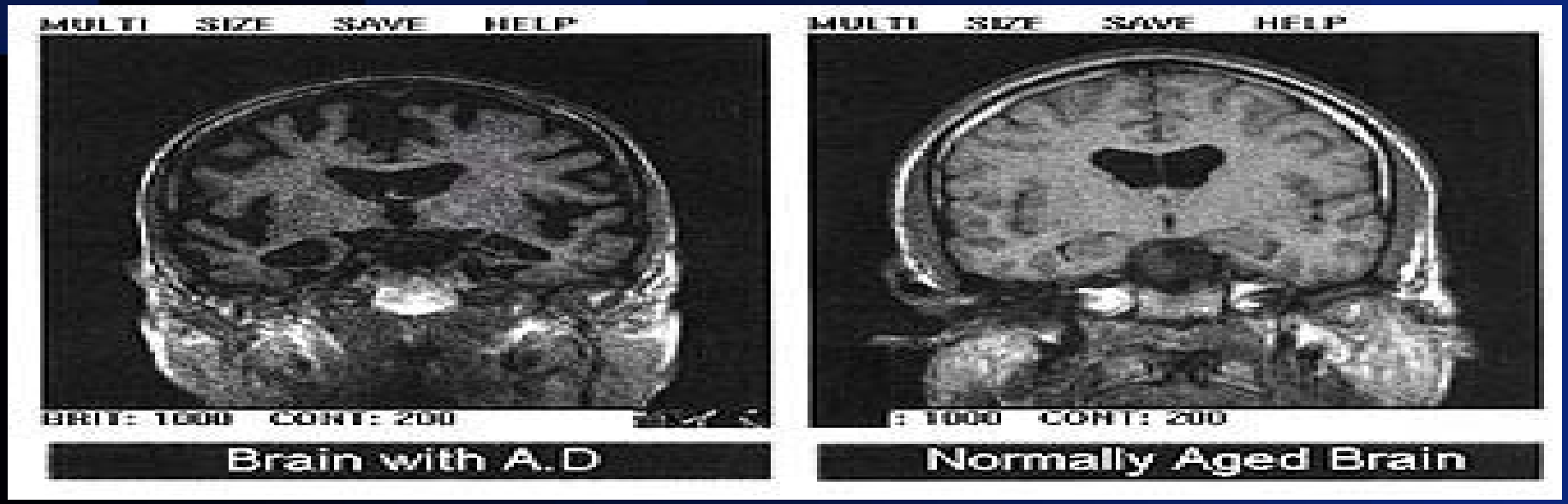
The Mini Mental Status Examination (MMSE): a scale to evaluate dementia (a score of 24 or less is indicative of dementia)

Mini-Mental State Examination

Maximum score	Score	
		Orientation
5	___	What is the (year) (season) (date) (day) (month)?
5	___	Where are we: (state) (county) (town or city) (hospital) (floor)?
		Registration
3		Name three common objects (e.g., "apple," "table," "penny"): Take one second to say each. Then ask the patient to repeat all three after you have said them. Give one point for each correct answer. Then repeat them until he or she learns all three. Count trials and record.
	___	Trials: ____
		Attention and clalculation
5		Spell "world" backwards. The score is the number of letters in correct order.
	___	(D___L___R___O___W___)
		Recall
3		Ask for the three objects repeated above. Give one point for each correct answer. (Note: recall cannot be tested if all three objects were not remembered during registration.)
	___	
		Language
2		Name a "pencil" and "watch."
	___	Repeat the following: "No ifs, ands or buts."
1	___	Follow a three-stage command:
3	___	"Take a paper in your right hand, fold it in half and put it on the floor."
1	___	Close your eyes.
1	___	Write a sentence.
1		Copy the following design.

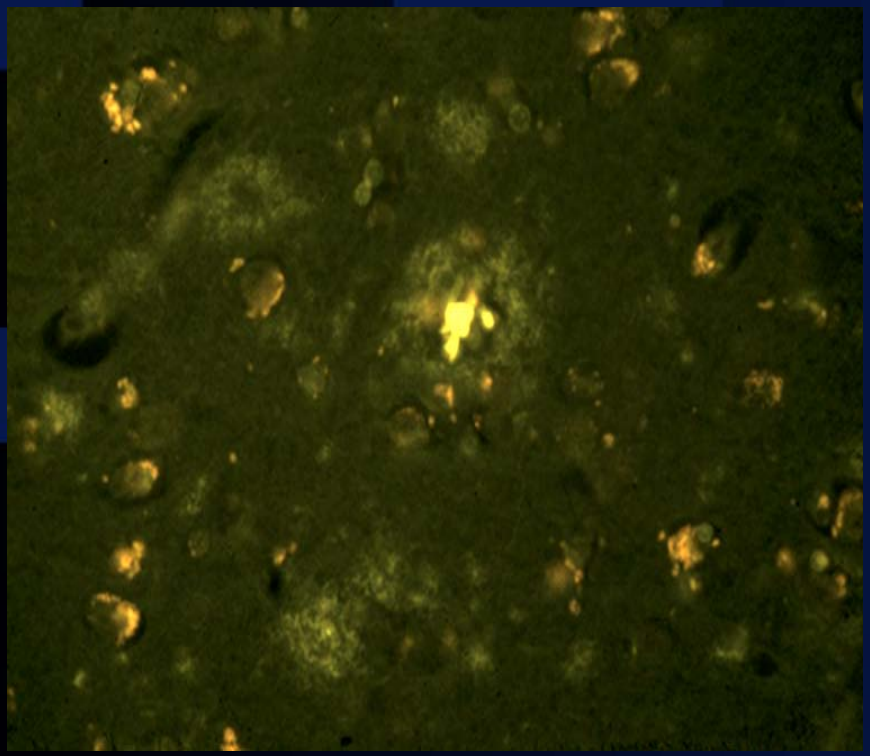
	___
Total score:	___

What do the brains of AD patients look like?

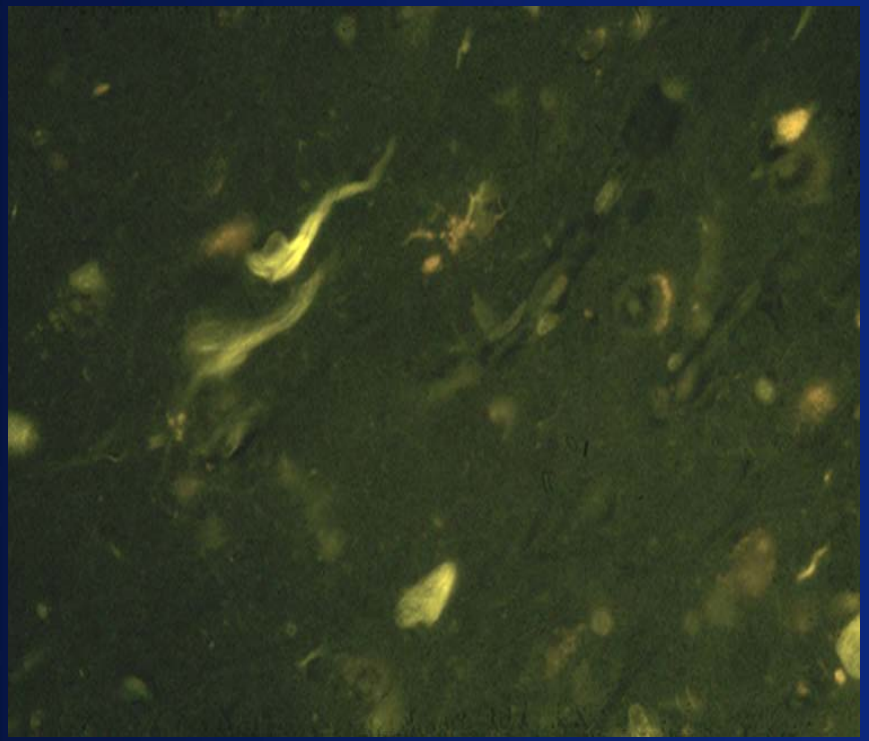


What do we find if we look in the brain tissue of AD patients?

AP



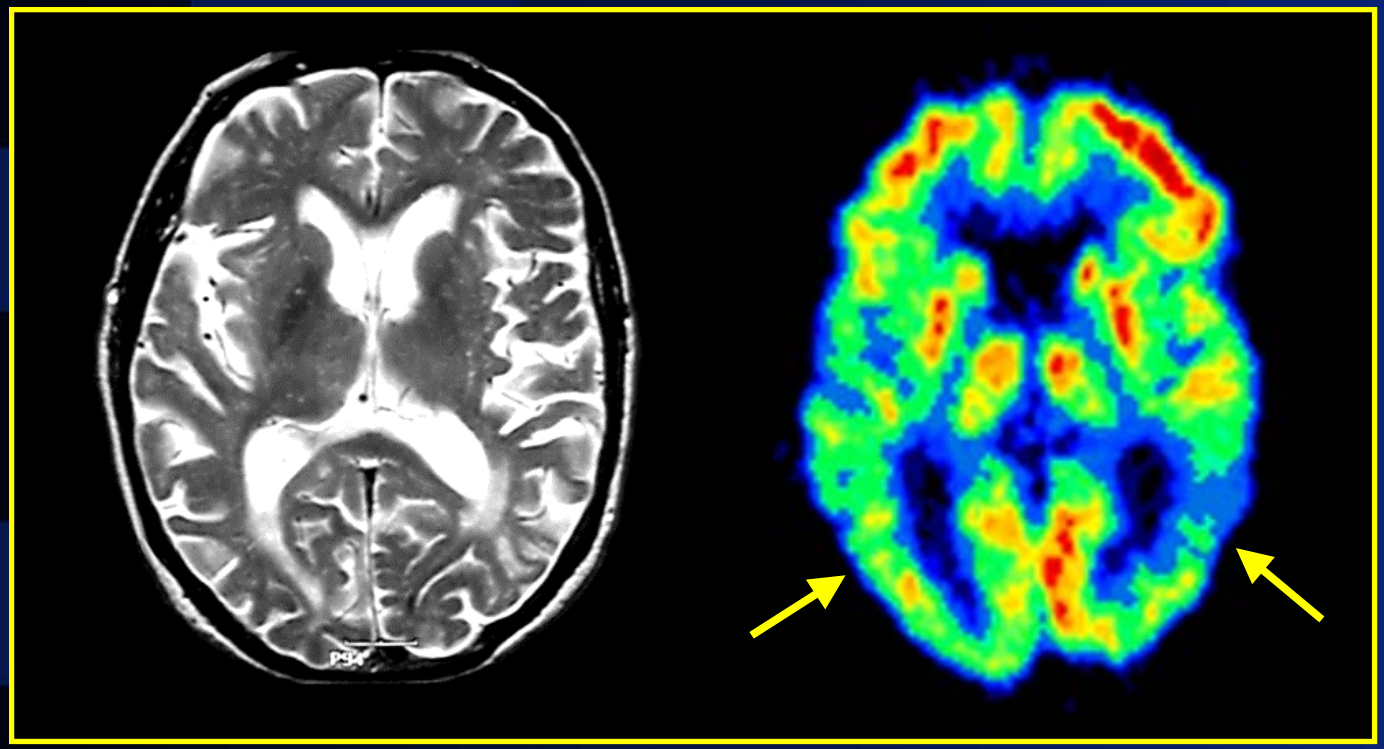
NFT

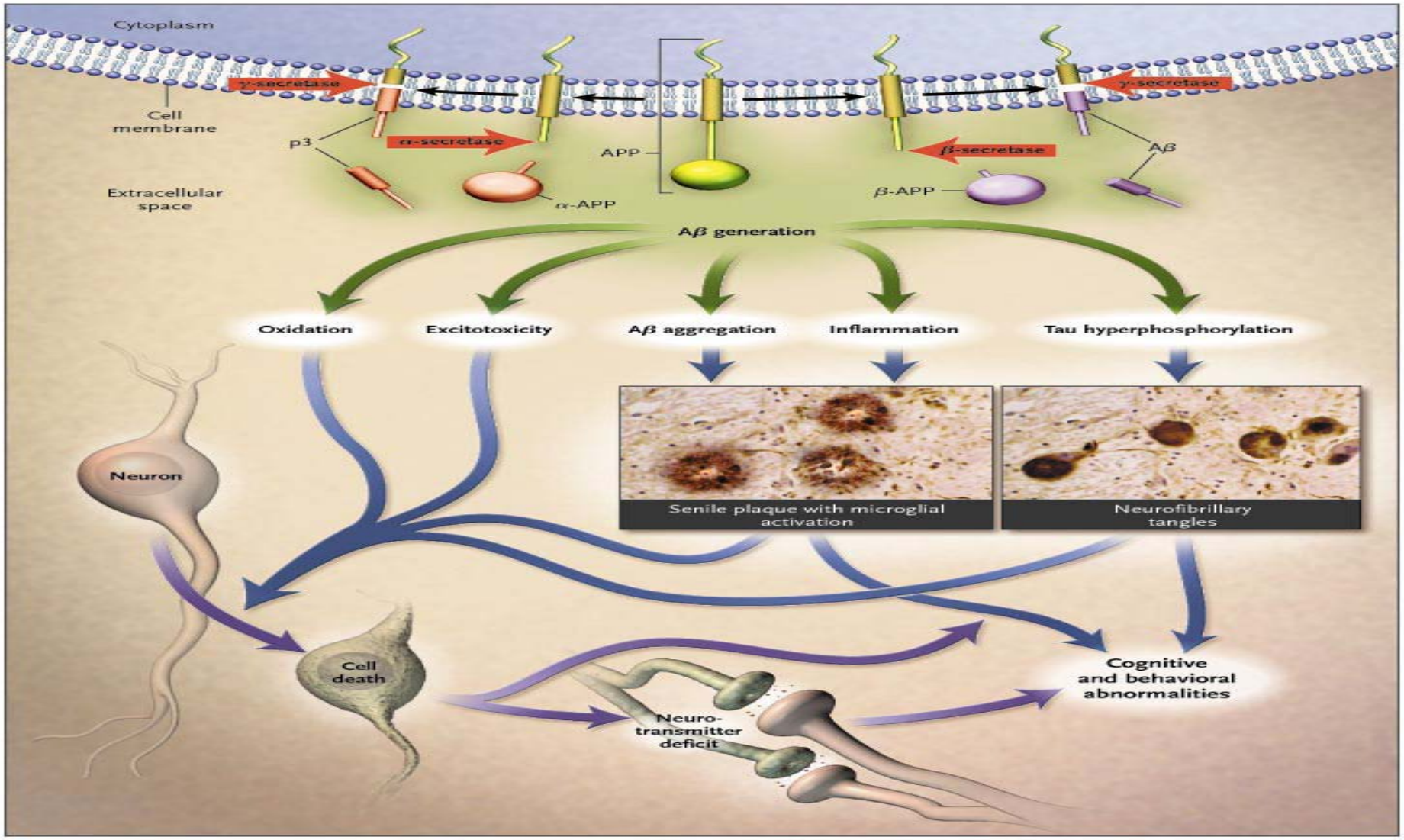


AP = amyloid plaques
NFT = neurofibrillary tangles

Courtesy of George Grossberg, St Louis University, USA

Where does AD hit the brain first?



Courtesy of Gary Small, MD, University of California, Los Angeles

The complex story of AD