



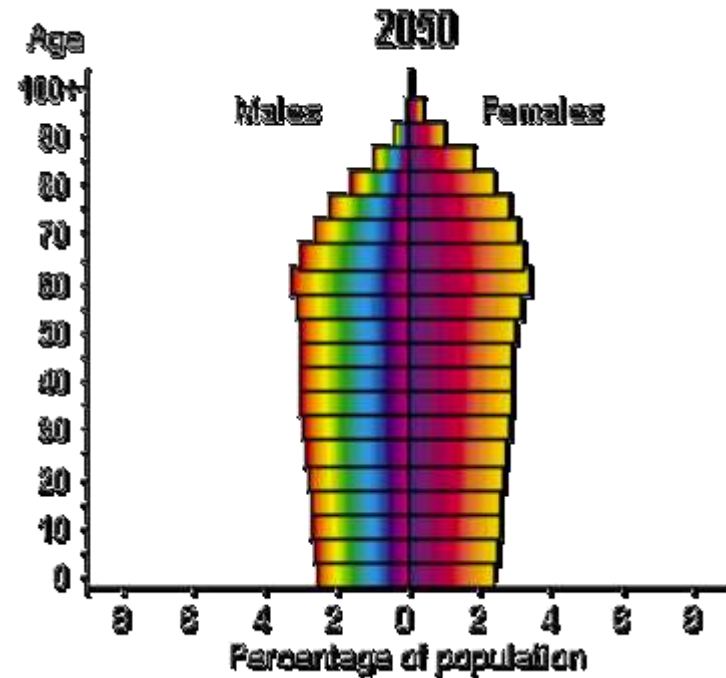
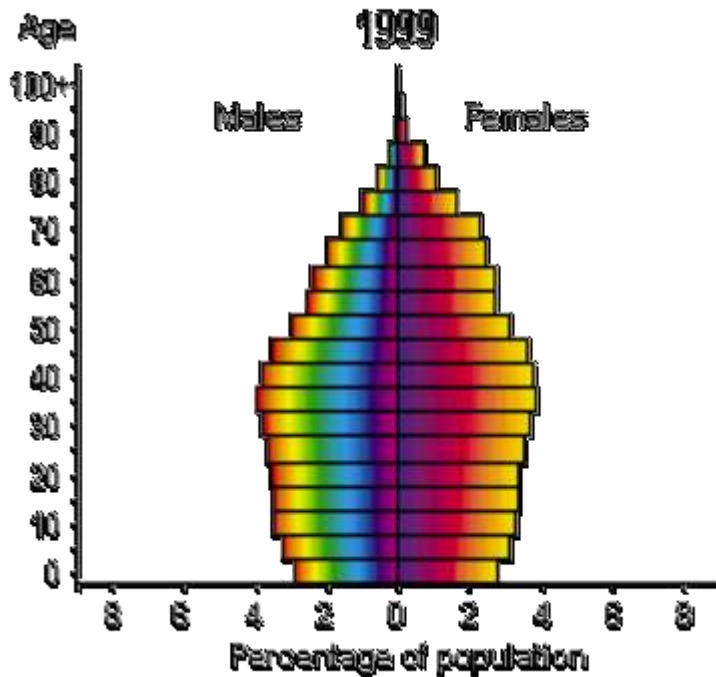
# Memory Loss and Dementia

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Director, Aging Adult Services at Stanford



# Compelling Demographic Shift Worldwide

2002 UN Assembly On Aging, Spain



# Thoughts...

Eubie Blake (lived to be 102) said, “If I had known I was going to live so long, I would have taken better care of myself”.



“What if I see you, and I don't know that you're my daughter, and I don't know that you love me?”

[Lisa Genova, \*Still Alice\*](#)

**Aging is not a disease ....  
anonymous**

# Dementia

- Dementia is not a single disease - set of signs and symptoms. Affected cognitive areas can be memory, attention, language, and problem solving. Symptoms and functionality vary greatly.
- Many kinds – most common Alzheimer’s Disease, Multi Infarct, Lewy Body, Frontal Lobe, Mild Cognitive Impairment (MCI).
- In 2006, there were 26.6 million sufferers worldwide. Alzheimer's is predicted to affect 1 in 85 people globally by 2050.

Source: American Journal of Alzheimer's Disease/Other Dementias, Vol. 22, No. 6, 489-498, 2008)

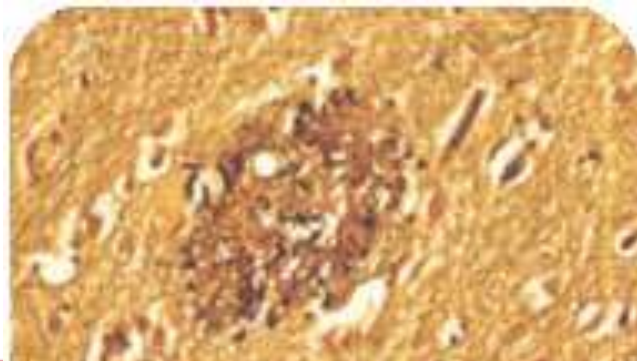
# Diagnosing AD

- Detailed patient history (deviation from baseline).
- Information from family and friends.
- Physical and neurological exams and lab tests.
- Neuropsychological tests.
- Imaging tools such as CT scan, or magnetic resonance imaging (MRI).
- CSF amyloid-beta and tau amyloid PET imaging.

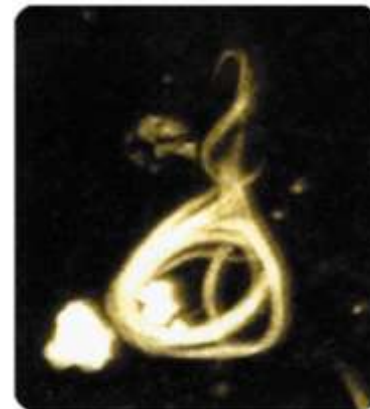
(Case of Dr. John M)

# Plaques and Tangles: The Hallmarks of AD

- Healthy, neurons communicate with each other, carry out metabolism, and repair themselves. These 3 break down in the dementia process.
- Beta-amyloid plaques, which are dense deposits of protein and cellular material accumulate outside and around nerve cells.
- Neurofibrillary tangles, which are twisted fibers build up inside the nerve cell.



An actual AD plaque



An actual AD tangle

# Memory

- Memory - processes used to acquire, store, retain and later retrieve information. There are three major processes involved in memory: encoding, storage and retrieval.
- Short term and long term memory.
- Functionality and memory loss.
- Caregiver and economic burden.
- Mnemonics, Structure, Imagination, Association, Location, Exercise, Neurobics, Technology.

# Building Systems & Devices...

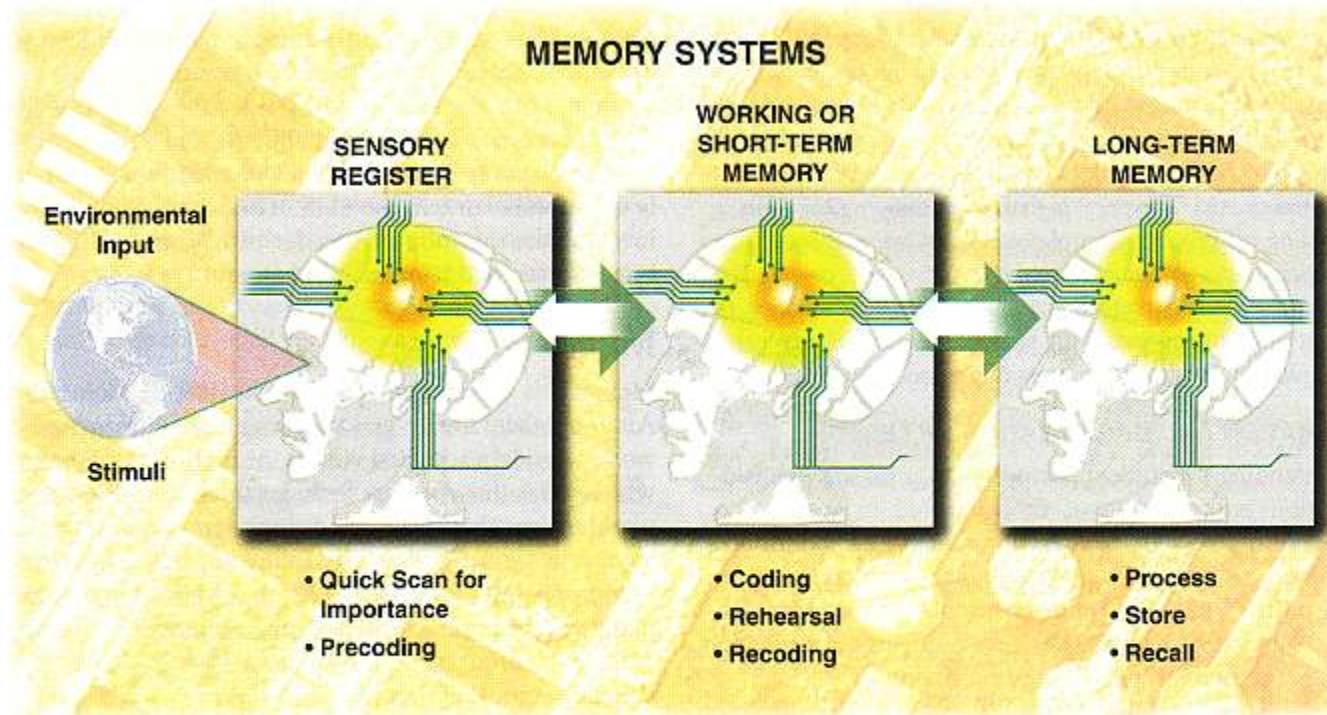


Figure 1-9. Information processing within the sensory register, working or short-term memory, and long-term memory includes complex coding, sorting, storing, and recall functions.



# It's a Wrap!



"OK, folks! ... It's a wrap!"