

**RUTGERS**

THE STATE UNIVERSITY  
OF NEW JERSEY

# What Baby Boomers Need to Know about Alzheimer's Disease and Related Disorders

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Related Disorders

# Why does cognitive functioning change with age?

Why shouldn't it?

Every organ system is altered by age

Brain's volume begins to decline

Loss of neurons as we age

Blood flow in brain declines

Brain wave frequency slows down

What happens as we age?

Cognitive changes mostly inevitable

Few “optimal agers”

Peak in 2<sup>nd</sup> decade, then slow decline

Reduction in mental processing speed

Slowed processing speed can affect all  
cognitive domains



# Defining Dementia

What it is and what it is not



# Dementia

A syndrome of **acquired**, persistent impairment in various cognitive domains

- Memory +
- Language
- Visuospatial abilities
- Executive functions
- Calculation
- Praxis

## Causes of Dementia

Alzheimer's disease

Dementia with Lewy  
bodies

Frontotemporal  
dementias/Pick  
complex

Vascular cognitive  
impairment

Infections (including  
HIV)

Parkinson's

Delirium

Huntington's

PSP

Trauma

Toxin exposures

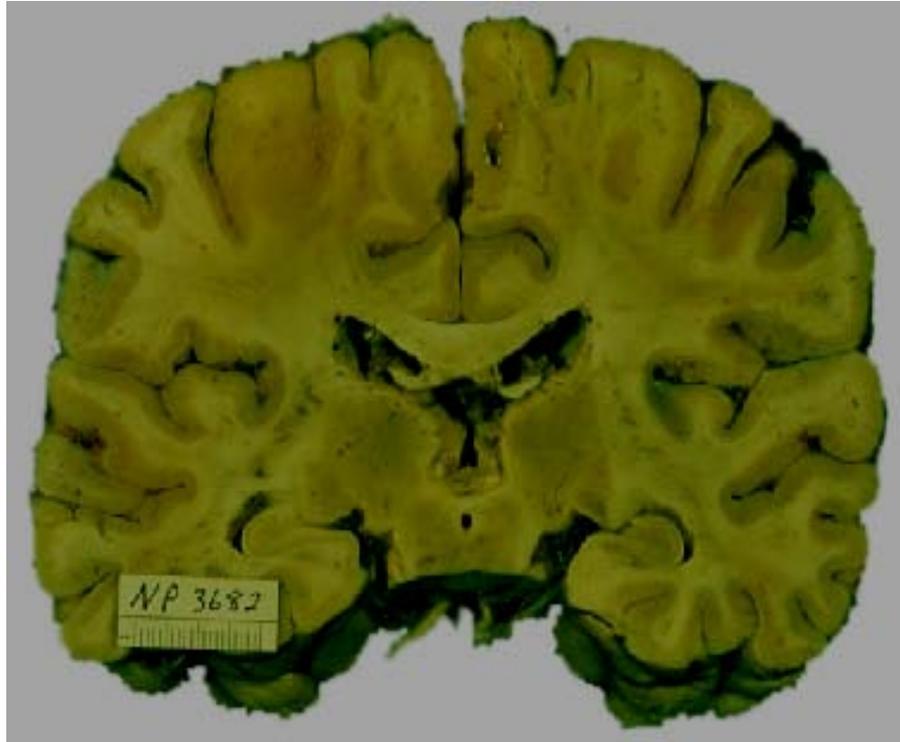
# Cognition

Cognitive functions include:

**Attention** (arousal, concentration, divided, freedom from distractibility)

**Memory** ( new learning, recall, recognition):  
Early in the process the person may seem distracted, misplacing personal objects and disoriented in familiar surroundings

Normal Brain



AD Brain







## Cognition: Language

**Aphasia:** impairment of language , difficulty finding words, naming objects and understanding instructions

**Apraxia:** is the inability to execute complex motor behaviors, such as bathing, dressing, driving or drawing: more effortful and awkward

**Agnosia:** failure to recognize or identify previously known objects such as utensils; do not recognize familiar faces; decreased insight (awareness & concern into illness)

## Cognition

**Visuospatial skills:** develop early in AD.

Navigating, manipulating mechanical objects in the home, drawing are affected.

**Calculation:** mathematical and business skills are impaired leading to difficulty in managing finances

Dementia syndrome of depression

Reversible syndrome of cognitive impairment

More rapid onset and course

Patient aware of and distressed by cognitive impairment

Concentration/motivation, retrieval deficit  
(clues help with memory)

Resolves as depression remits

At risk for dementia

# Trauma

Can cause dementia

Type of functioning impaired depends on area of brain injured

Can be obvious (e.g. skull fracture)

Can be extremely subtle – “Minor” head injury.

Much more common than we thought (Gordon, 2009)

No impact – Diffuse Axonal Shearing

## Ethical Issues

Ability to give INFORMED consent

Legally “competent” but clearly unable to understand what is happening

Limits of POA’s (health care, financial)

Who decides “what’s right?”

Who is the client?

Driving

## Caregivers

Don't forget the caregiver!

An overwhelming task

Emotional challenges

Physical toll (stress)

Family conflict

Competing priorities

## When to refer

Memory or other cognitive problems are causing functional impairment

Sudden onset – possibly delirium, overdose, stroke, etc. – immediate medical attention

Concern over cognitive functioning is significantly distressing to the person

When in doubt, consult (see Resources below)

# Treatment Options

Medications

Therapy

Social Day Programs

- Stimulation

- Socialization

- Not just “a place to go!”

Treatment for the caregiver!

# How can we “protect” the brain?

## “Cognitive Reserve”

- Inherited?
- Result of environment and use?

Control High Blood Pressure

Keep diabetes under control

Don't smoke!

If it's bad for your heart, it's probably bad for your brain.

Physical activity

New brain cells can be produced (not long ago we did not think this was possible)

## Diet

Sparse evidence (not enough) to show that supplements (e.g. ginkgo biloba) can enhance or preserve functioning

Good nutrition as we understand it is better for developing brains and probably for maintaining healthy brains

Antioxidants are probably good.

No miracle “brain food.”

## Exercise

Aerobic exercise improves blood flow to the brain and imaging shows increased activity after exercise (short term) and increased volume in some regions (more lasting).

It makes it easier for new neural connections (the basis for networks) to form

Not enough evidence to show that this will enhance/preserve cognition but it makes sense to hypothesize that it will do so

Clinical trials research is needed.

## Brain Exercise

Cognitive “training” (e.g. using the brain to solve problems, memorize new information, etc.) can improve functioning **ON THOSE TASKS**.

This has not yet been shown (scientifically) to improve functioning overall.

Even if you can't change raw ability to remember, you can use memory more efficiently by using learning strategies (mnemonic devices, categorizing, association).

# Opportunities to stimulate the brain in fun ways

Take a new route to your daily destination

Put things in new places

Volunteer work

- New social connections
- New skills with a sense of PURPOSE or MEANING

Try to remember numbers before using speed dial

# The importance of socializing

Socializing stimulates (exercises) many areas and networks of the brain

Planning an event (e.g. a party) engages many skills (executive functioning, memory, visual/spatial ability)

Planning a trip with others

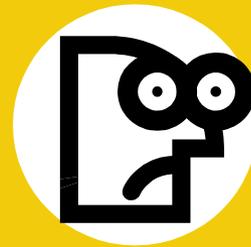
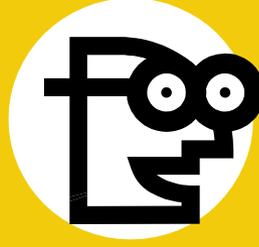
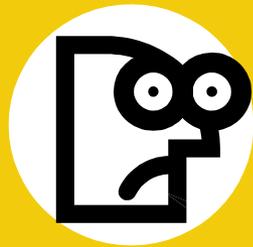
## Resources

Refer to primary care physician

- *With specific concern about memory*

## COPSA

- EARS for Caregivers 1-866-300-3277
  - Dementia evaluations and follow up care
  - Coordination with primary care physician
  - Case management
  - Caregiver Support
  - Community Outreach
  - Care 2 Caregivers peer support line  
1(800)424-2494



**It's QUESTION TIME!!**