

Bringing Light to the Darkness of Dementia

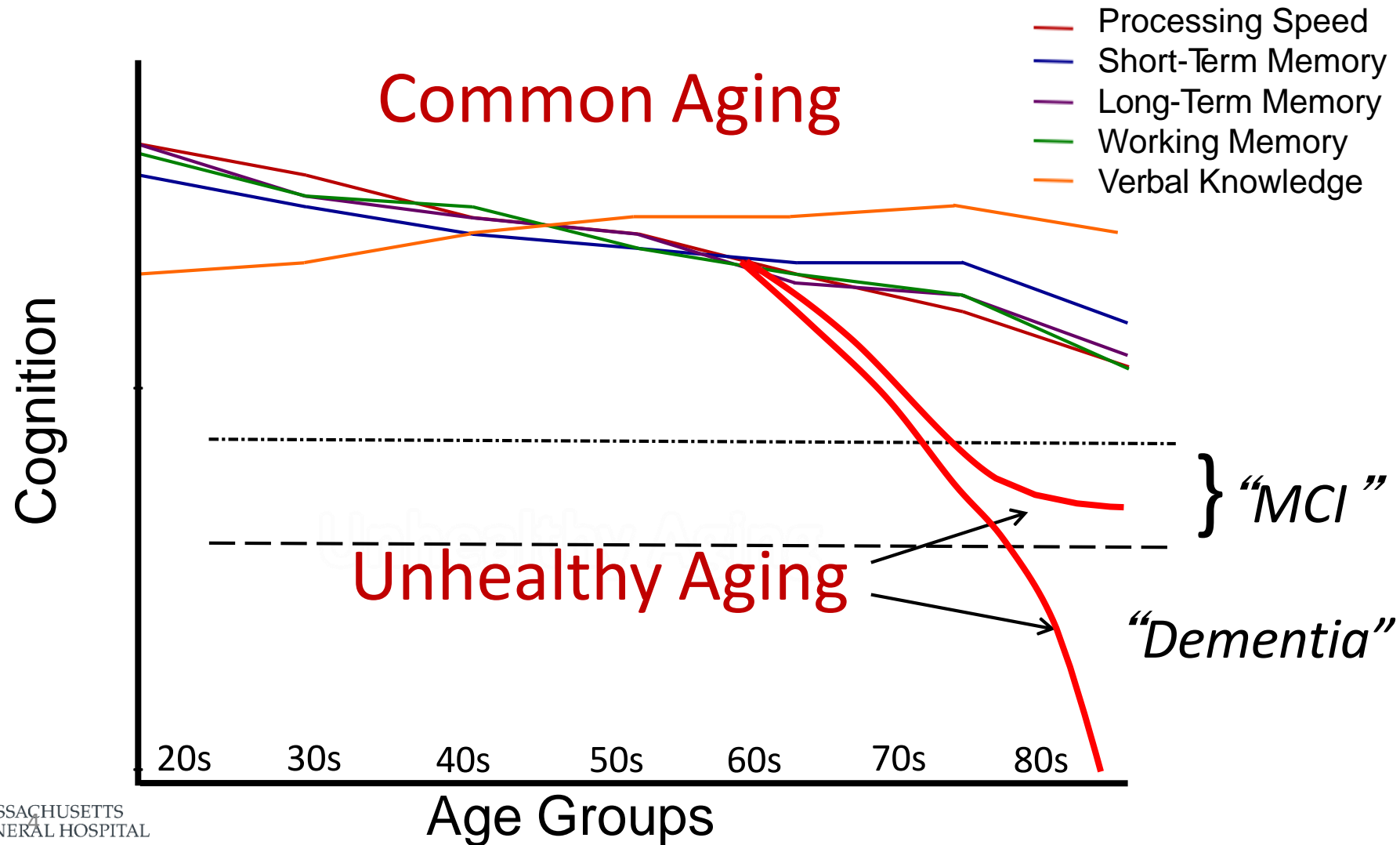
Alison McManus DNP, FNP-BC

June 4th 2021

Disclosures

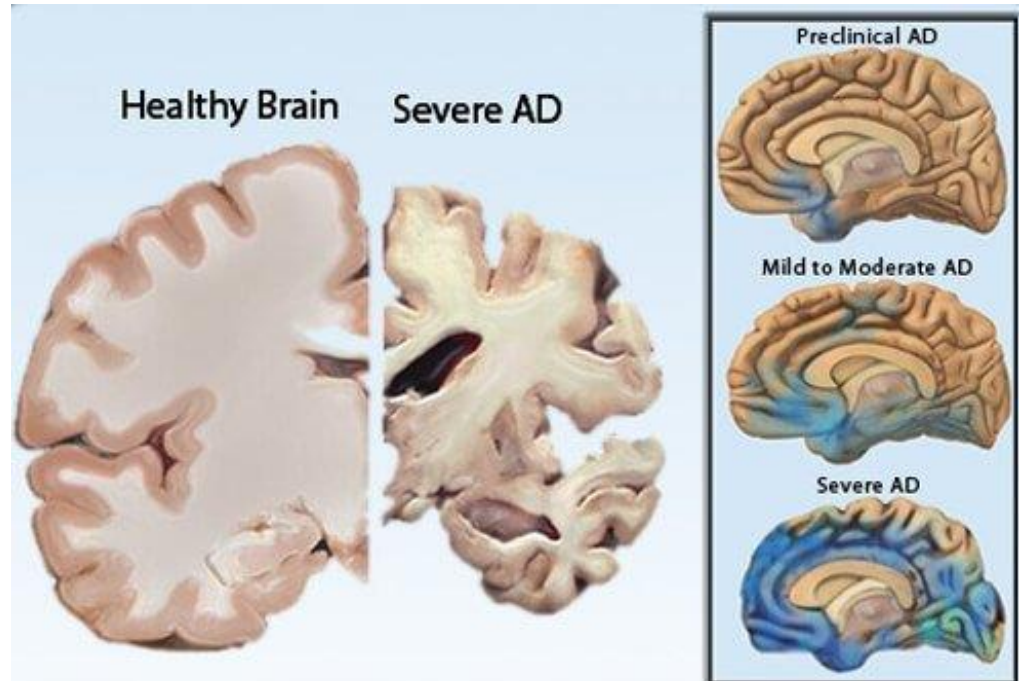
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Mild Cognitive Impairment and Dementia



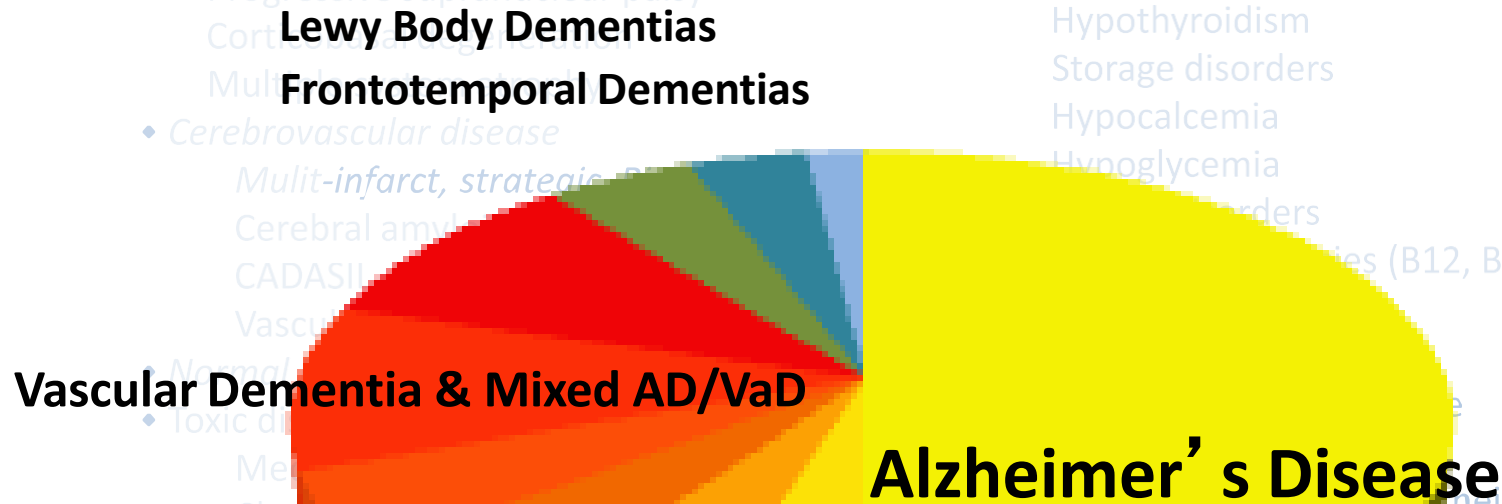
What is Dementia?

- Definitions
 - Subjective Cognitive Decline
 - Mild Cognitive Impairment
 - Dementia



Source:
https://www.onhealth.com/content/1/dementia_memory_brain_disorder

Causes of Dementia in Later Life





Andy – 68 year old male

- Chief Complaint – “my memory just doesn’t seem to be as good as it used to be”
- History
 - Started 18 months ago – worse in the past 6 months
 - Difficulty remembering names and appointments
 - Forgot an old friend’s name last week
 - Missed a Dr. appointment 2 months ago
 - Wife reports
 - He appears to not be as happy as he used to be
 - increased anxiety – even over relatively minor events

Diagnosis

- **Clinical exam**
- **Assessment of independent function & daily activities**
- **Depression Screening**
- Rule out other causes of cognitive impairment
 - Infection
 - Nutritional Deficiencies
 - Medications
- Neuropsychological testing
- Blood work
- MRI
- Lumbar Puncture

Geriatric Depression Scale (GDS) Short Form

Choose the best answer for how you have felt over the past week:

1. Are you basically satisfied with your life?	Yes	No
2. Have you dropped many of your activities and interests?	Yes	No
3. Do you feel that your life is empty?	Yes	No
4. Do you often get bored?	Yes	No
5. Are you in good spirits most of the time?	Yes	No
6. Are you afraid that something bad is going to happen to you?	Yes	No
7. Do you feel happy most of the time?	Yes	No
8. Do you often feel helpless?	Yes	No
9. Do you prefer to stay at home rather than going out and doing new things?	Yes	No
10. Do you feel you have more problems with memory than most?	Yes	No
11. Do you think it is wonderful to be alive now?	Yes	No
12. Do you feel pretty worthless the way you are now?	Yes	No
13. Do you feel full of energy?	Yes	No
14. Do you feel that your situation is hopeless?	Yes	No
15. Do you think that most people are better off than you are?	Yes	No

Source: Sheikh, J.I., and Yesavage, J.A. Geriatric Depression Scale (GDS): Recent evidence and development of a shorter version. *Clinical Gerontologist* 5(1-2): 165-173, 1986.

Prevention Pathways: *Online Courses*

<http://www.samhsa.gov/preventionpathways>



Diagnosis

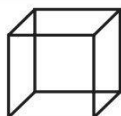
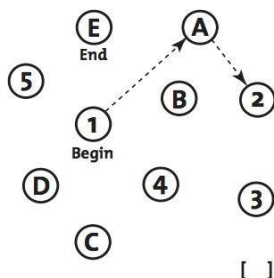
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MONTREAL COGNITIVE ASSESSMENT (MOCA)

NAME :
Education :
Sex :
DATE :

VISUOSPATIAL / EXECUTIVE



Copy
cube

Draw CLOCK (Ten past eleven)
(3 points)

POINTS

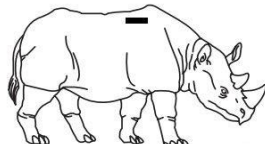
[] [] []
Contour Numbers Hands

___/5

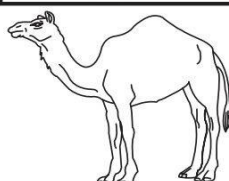
NAMING



[]



[]



[]

___/3

MEMORY

Read list of words, subject
must repeat them. Do 2 trials.
Do a recall after 5 minutes.

	FACE	VELVET	CHURCH	DAISY	RED
1st trial					
2nd trial					

No
points

ATTENTION

Read list of digits (1 digit/ sec.).

Subject has to repeat them in the forward order [] 2 1 8 5 4
Subject has to repeat them in the backward order [] 7 4 2

___/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors

[] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B

___/1

Serial 7 subtraction starting at 100

[] 93 [] 86 [] 79 [] 72 [] 65
4 or 5 correct subtractions: 3 pts, 2 or 3 correct: 2 pts, 1 correct: 1 pt, 0 correct: 0 pt

___/3

LANGUAGE

Repeat: I only know that John is the one to help today. []

The cat always hid under the couch when dogs were in the room. []

___/2

Fluency / Name maximum number of words in one minute that begin with the letter F [] ____ (N ≥ 11 words)

___/1

ABSTRACTION

Similarity between e.g. banana - orange = fruit [] train - bicycle [] watch - ruler

___/2

DELAYED RECALL

Has to recall words

	FACE	VELVET	CHURCH	DAISY	RED
WITH NO CUE	[]	[]	[]	[]	[]

Points for
UNCUED
recall only

___/5

Optional

Category cue

Multiple choice cue

ORIENTATION

[] Date [] Month [] Year [] Day [] Place [] City

___/6

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Normal ≥ 26 / 30

TOTAL

Add 1 point if ≤ 12 yr edu

___/30

www.mocatest.org

MINI MENTAL STATE EXAMINATION (MMSE)

Name:
DOB:
Hospital Number:

One point for each answer

DATE:

ORIENTATION

Year Season Month Date Time

...../ 5/ 5/ 5

Country Town District Hospital Ward/Floor

...../ 5/ 5/ 5

REGISTRATION

Examiner names three objects (e.g. apple, table, penny) and asks the
patient to repeat (1 point for each correct. THEN the patient learns
the 3 names repeating until correct).

...../ 3/ 3/ 3

ATTENTION AND CALCULATION

Subtract 7 from 100, then repeat from result. Continue five times:
100, 93, 86, 79, 65. (Alternative: spell "WORLD" backwards: DLROW).

...../ 5/ 5/ 5

RECALL

Ask for the names of the three objects learned earlier.

...../ 3/ 3/ 3

LANGUAGE

Name two objects (e.g. pen, watch).

...../ 2/ 2/ 2

Repeat "No ifs, ands, or buts".

...../ 1/ 1/ 1

Give a three-stage command. Score 1 for each stage. (e.g. "Place
index finger of right hand on your nose and then on your left ear").

...../ 3/ 3/ 3

Ask the patient to read and obey a written command on a piece of
paper. The written instruction is: "Close your eyes".

...../ 1/ 1/ 1

Ask the patient to write a sentence. Score 1 if it is sensible and has a
subject and a verb.

...../ 1/ 1/ 1

COPYING: Ask the patient to copy a pair of intersecting pentagons



...../ 1/ 1/ 1

TOTAL:

...../ 30/ 30/ 30

MMSE scoring

24-30: no cognitive impairment
18-23: mild cognitive impairment
0-17: severe cognitive impairment



Source; <https://www.parinc.com/Products/Pkey/237>

www.mghcme.org



MASSACHUSETTS
GENERAL HOSPITAL

NEUROSCIENCE

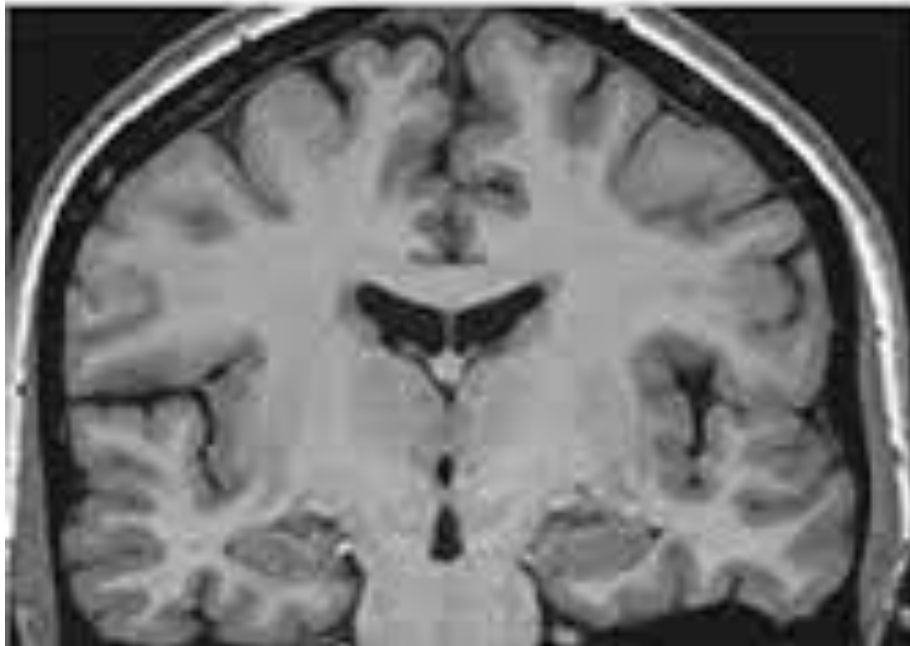
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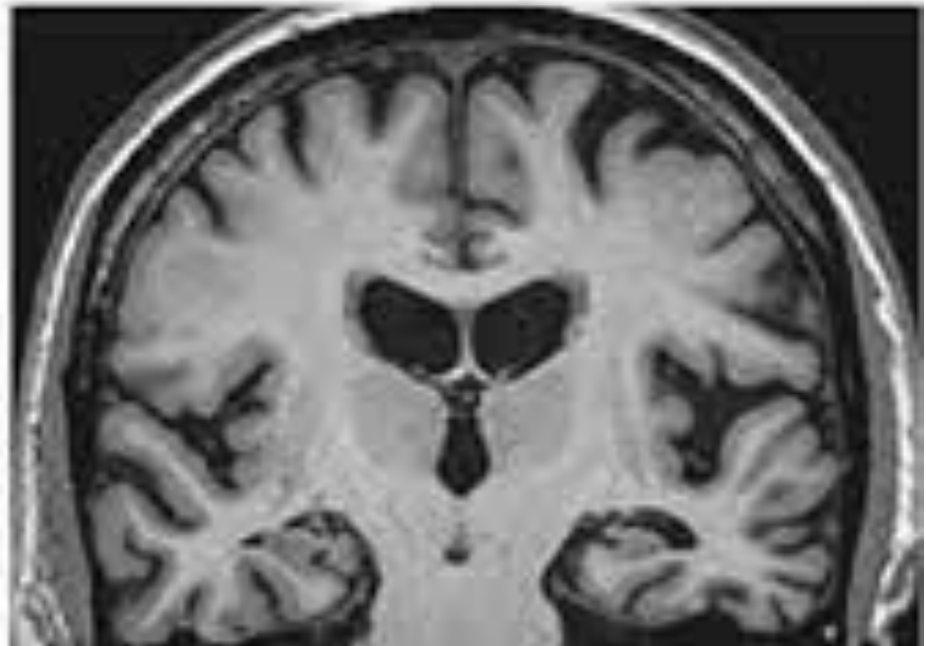


Imaging - MRI

Healthy Control



Alzheimer's Disease



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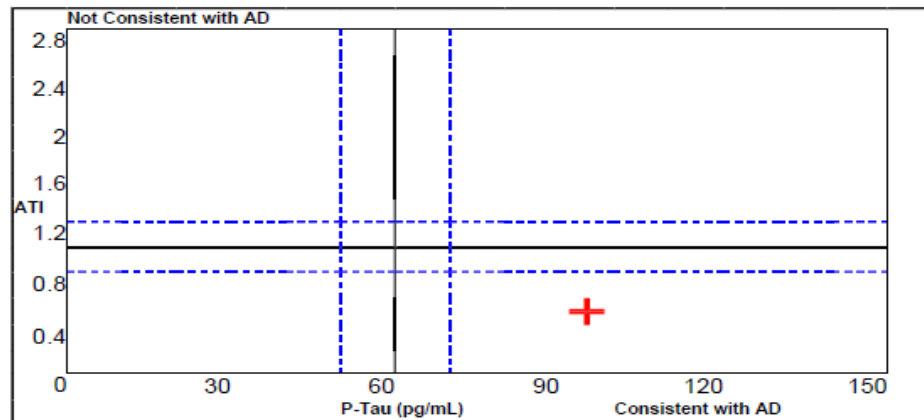
Lumbar Puncture

Phospho-Tau / Total-Tau / A Beta 42 CSF Analysis and Interp.

This test detected a reduced A-beta 42 to T-tau Index (ATI) and elevated levels of P-tau protein in the cerebrospinal fluid (CSF).

INTERPRETIVE RESULTS TABLE

Interpretation	Test	Technical Result	Reference Range (if applicable)
Alzheimer Disease	A-beta 42	452.85 pg/mL	Not consistent with AD: P-Tau <54 pg/mL and ATI >1.2, Borderline: P-Tau 54-68 pg/mL and/or ATI 0.8-1.2, AD: P-Tau >68 pg/mL and ATI <0.8
	T-Tau	649.5 pg/mL	
	P-Tau	99.3 pg/mL	
	ATI	0.45	



Comments: This analysis detected levels of CSF A-beta 42 peptide (A-beta 42) and total tau (T-tau) proteins, reflected in a reduced A-beta 42 to T-tau Index (ATI). The level of phospho-tau (P-tau) was also elevated. These results are consistent with a diagnosis of Alzheimer's disease (AD).

General Care and Counseling for MCI and early-stage Dementia

- Diagnosis and Prognosis counseling
- Maximize QOL while living with a chronic disease
- Life planning
- Lifestyle modifications to optimize brain health
 - Physical exercise
 - Stress Management
 - Mental Stimulation
 - Heart Healthy Nutrition
 - Social engagement



www.verywellmind.com



www.myfitnesspal.com



www.blog.hurusa.com



www.sixtyandme.com

Currently Approved Medicines for the Treatment of Alzheimer's Disease

Aricept / Donepezil



Exelon (Rivastigmine)



Reminyl (Galantamine)



Namenda (Memantine)



When to Refer

- Rapid cognitive decline
- Neuropsychiatric behaviors
- Seizures
- Safety concerns
- Patient/family request

Alzheimer's Clinical & Translational Research Unit @ MGH



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Questions?

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