EVALUATION OF DEMENTIA

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Disclosures

- I have received research funding from Biogen.
- I have received speakers honoraria from MedBridge.

Overview

- definitions: mild cognitive impairment, dementia
- challenges and impetus for early diagnosis
- how to conduct a cognitive evaluation visit
- diagnosis and disclosure
- treatment
- resources

Definitions: MCI versus Dementia

- patient and/or companion (or clinician) are concerned about cognitive change
- impaired performance on formal cognitive testing

- mild cognitive impairment (MCI)
  - there has been a change in cognition, but the person remains independent in all activities of daily living
  - may be employing compensatory strategies, or taking longer to complete tasks

- dementia
  - there has been a change in cognition, to a degree that the person requires assistance from others
  - stages: mild / moderate / severe
  - onset: early = symptoms beginning before age 65

Diagnostic Challenges

- unpleasant topic (Alzheimer's: the "A" word)
  - fear of loss of personhood
  - immediately conjures thoughts of end stage disease
  - lack of curative treatment options
- early symptoms often difficult to detect
  - routine of clinic visit and preservation of social graces can mask cognitive impairment
- diagnostic visit takes time
  - no simple screening blood test (yet)
  - important to obtain additional information from someone who knows the person well
    - now can capture in billing!

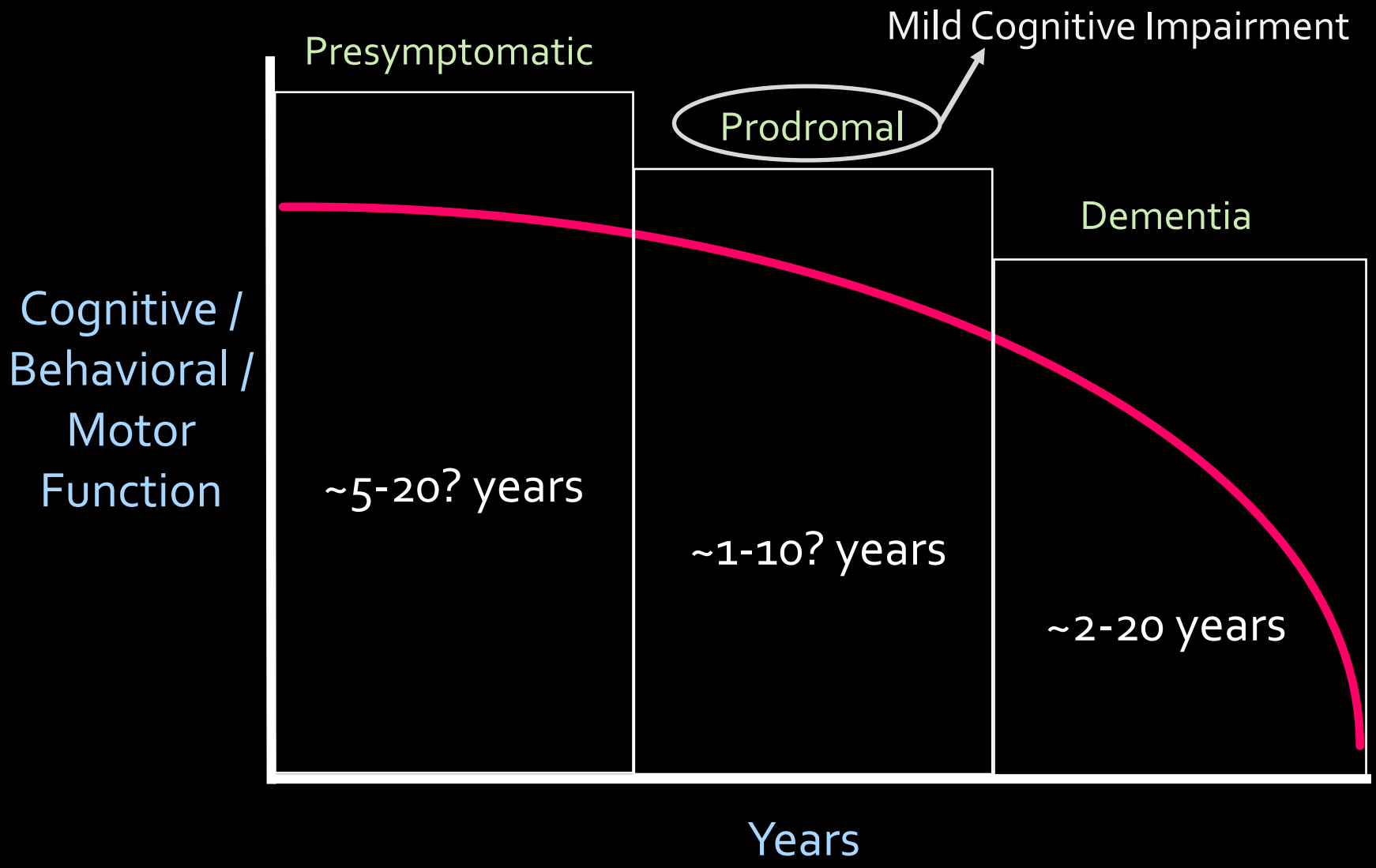
Why Diagnose Early: Optimize Care Delivery

- ensure companion accompanies patient to visits
- medication administration / compliance
  - reduce / avoid medications which impair cognition
- plan appropriately for progressive decline
  - consider appropriate preventive care goals
  - opportunity for Advance Care planning
    - DPOA with alternates

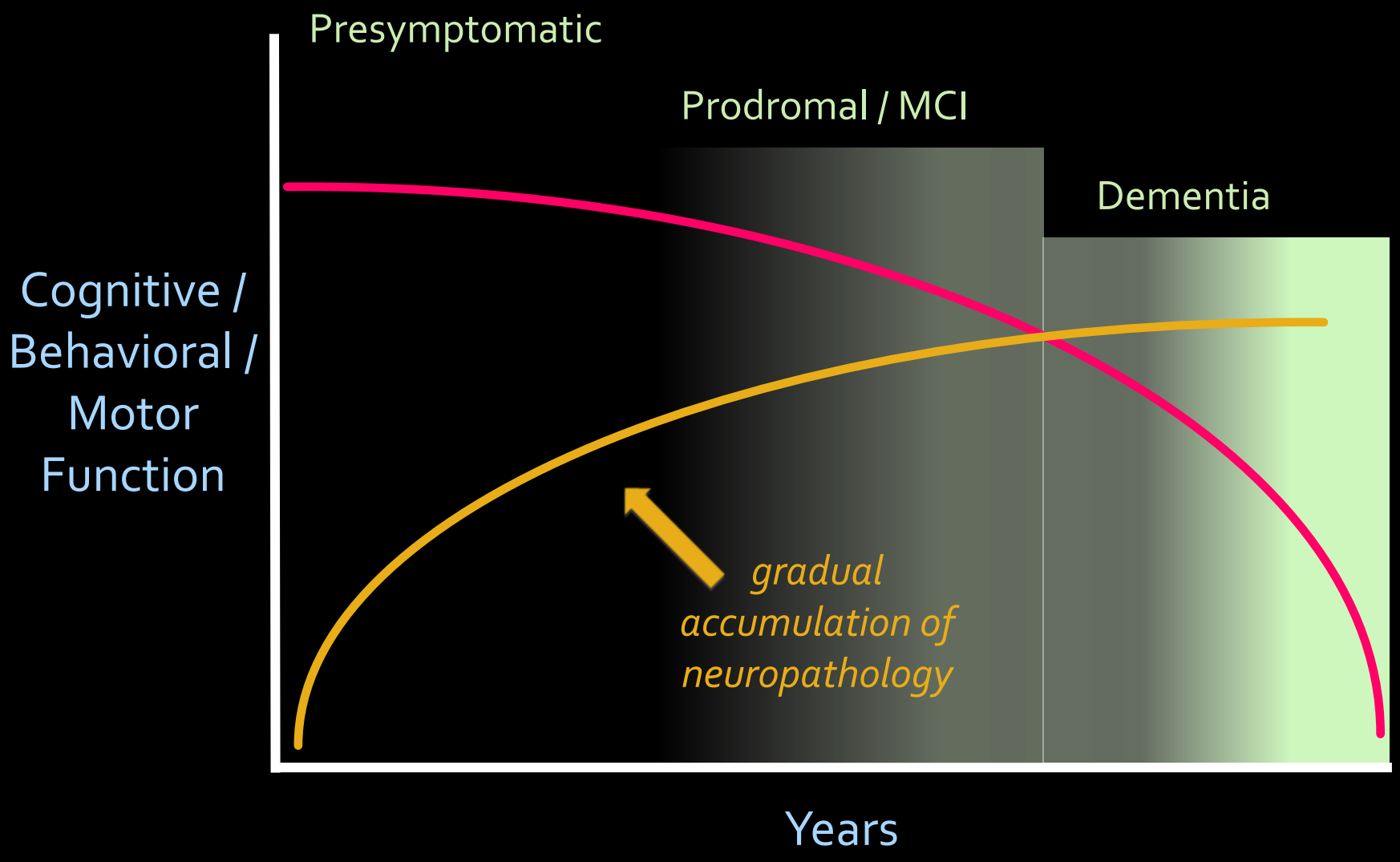
Why Diagnose Early: Opportunities for Risk Reduction

- delirium education: risk and recognition
- identify safety risks: driving, $, meal preparation, firearms, powertools
- engage multidisciplinary team
- tap into community resources

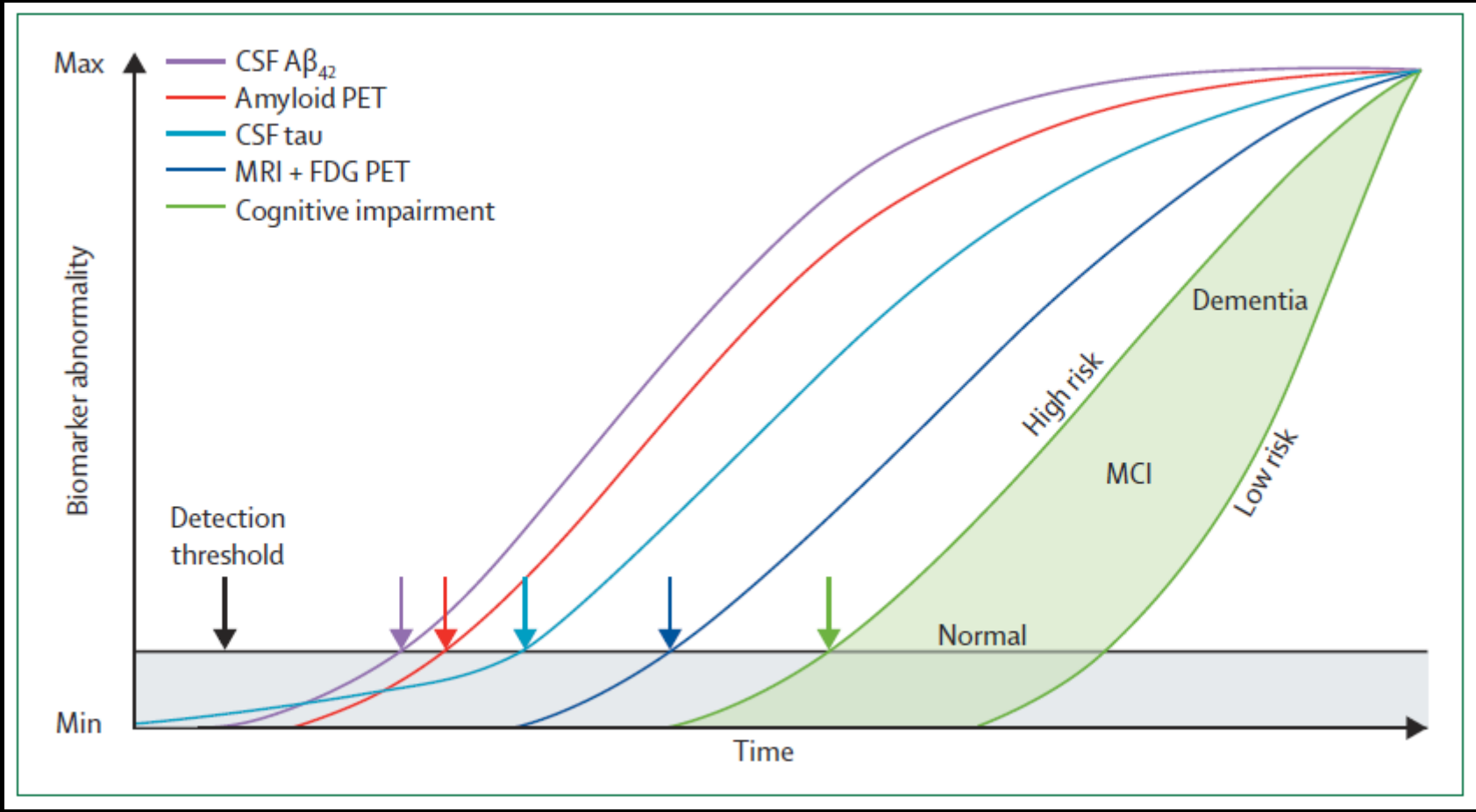
Progression of Neurodegenerative Disease



Progression of Neurodegenerative Disease



Neurodegenerative Biomarkers in AD



Jack et al, *Lancet Neuro* 2013

When to Consider Scheduling a Full Visit for a Cognitive Evaluation

- patient or companion mentions a concern
  - "yes" on Annual Wellness Visit questionnaire
  - "tell me more"
    - repetitive questions within 30 minutes?
    - difficulty with complex tasks which were previously routine?
    - disorientation in familiar places?
- less worrisome
  - taking longer to come up with names
  - momentarily forgetting why came into a room

When to Consider Scheduling a Full Visit for a Cognitive Evaluation

- concerns from clinic staff
  - missed appointments
  - unsure about meds, discrepant prescription renewals
  - lab results, blood pressure readings don't correspond to recommended medication adjustments
  - difficulty with hygiene, weight loss

Preparing for the Cognitive Evaluation Visit

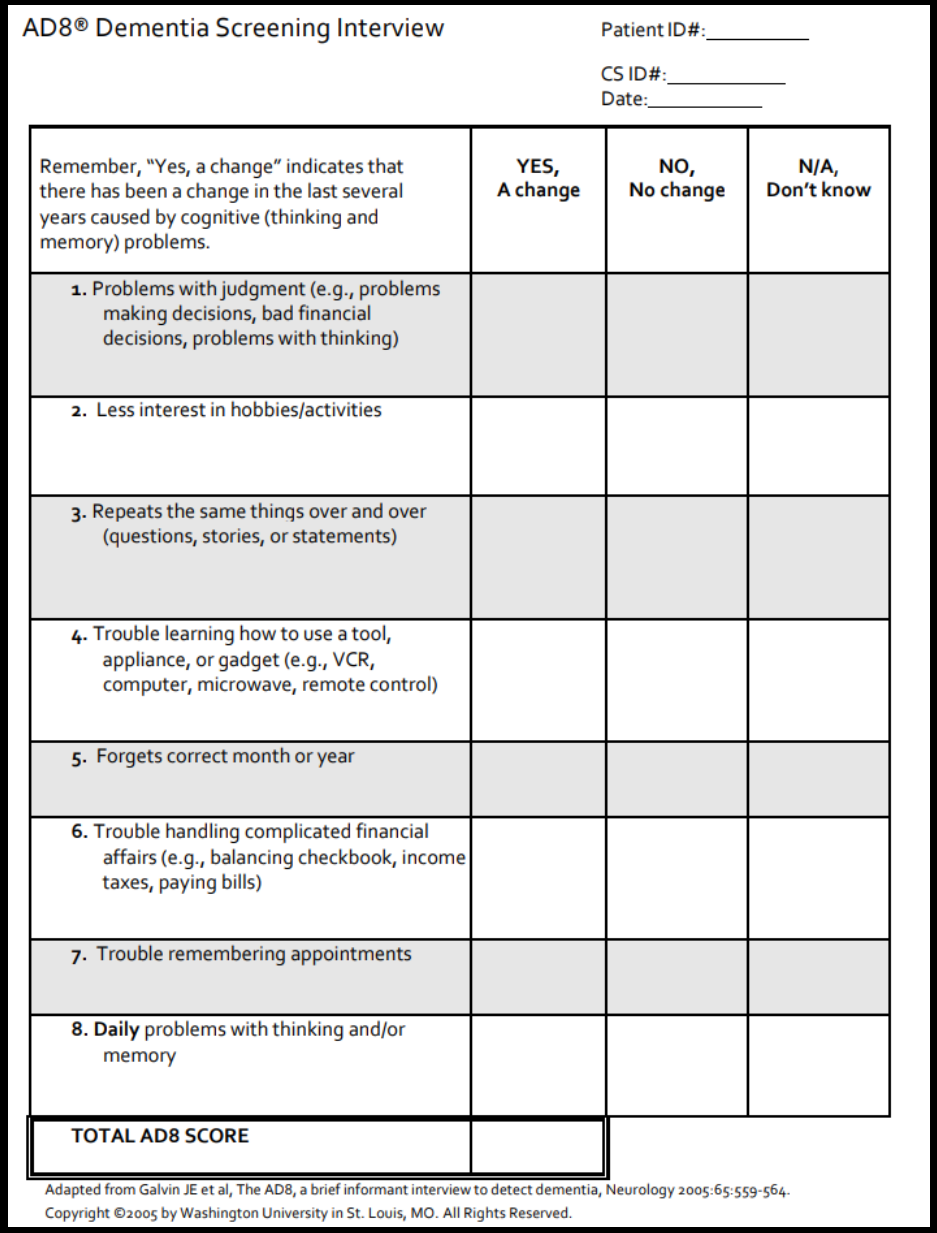
- person who knows patient well available to provide collateral history
- all medication bottles brought for review
- ensure optimal timing of cognitive assessment
  - patient amenable to cognitive testing
  - avoid testing when delirious

- billing considerations
  - 2021 Level 5 RVU is double Level 3
  - time based: 40 min total same day (not just face to face)
  - MDM: get credit for collateral input

History: Symptom Onset and Progression

- initiation and progression of symptoms
  - anchor to salient timepoints
    - was everything "normal" at the last family / holiday gathering? how about the year before that?
  - are symptoms worsening over time?
    - have compensatory strategies been implemented?
    - are other people now providing assistance?
  - notable changes may include decreased efficiency or increased irritability / anxiety
- providing a written questionnaire may allow companion to highlight areas of contention
  - consider the AD8

AD8 Screening Questionnaire



AD8® Dementia Screening Interview

Patient ID#:_____

CS ID#:_____

Date:_____

Remember, "Yes, a change" indicates that there has been a change in the last several years caused by cognitive (thinking and memory) problems.	YES, A change	NO, No change	N/A, Don't know
1. Problems with judgment (e.g., problems making decisions, bad financial decisions, problems with thinking)			
2. Less interest in hobbies/activities			
3. Repeats the same things over and over (questions, stories, or statements)			
4. Trouble learning how to use a tool, appliance, or gadget (e.g., VCR, computer, microwave, remote control)			
5. Forgets correct month or year			
6. Trouble handling complicated financial affairs (e.g., balancing checkbook, income taxes, paying bills)			
7. Trouble remembering appointments			
8. **Daily** problems with thinking and/or memory			
TOTAL AD8 SCORE			

Adapted from Galvin JE et al, The AD8, a brief informant interview to detect dementia, Neurology 2005:65:559-564.

- ok to ask patient or companion
- change due to cognitive impairment, not physical impairment
- 2 (+) YES responses indicate cognitive impairment likely to be present

https://knightadrc.wustl.edu/about_us/pdfs/AD8form2005.pdf

History: Specific Concerns

- focus on whether there is a *change* from prior abilities
  - financial management
    - missing any bills? harder to prepare taxes?
  - appointment keeping
    - missed appointments? using a paper calendar?
  - medication management
    - missing doses? using a pillbox?
  - meal preparation, food shopping
    - forgetting ingredients? using a gas stove?
  - travel
    - self-limiting routes?

Screening for Other Causes of Cognitive Impairment

- co-morbidities
  - sleep apnea
  - hearing loss
  - depression
- medications, including OTCs
  - sleep aid: diphenhydramine, doxylamine
  - anxiolytics: benzodiazepines, hydroxyzine, TCA
  - pain meds: oxycodone, tizanidine
  - bladder meds: oxybutynin
- other exposures
  - alcohol, marijuana, other illicits

Screening Cognitive Testing

- Montreal Cognitive Assessment (MoCA)
  - best validated to evaluate for early cognitive impairment
  - available in multiple languages
  - available in multiple versions
  - MoCA score
    - ≥ 26: cognitive impairment unlikely
    - 20 – 25: possible MCI
    - < 20: possible dementia

- for more severe cognitive impairment, or individuals with minimal formal education, or those resistant to testing, alternative evaluation can be considered
  - Mini-Cog
  - ask current events and basic orientation questions, hide 3-5 pieces of paper around the room and set a 5 minute timer, name common objects, add up bills/coins, simple figure copy

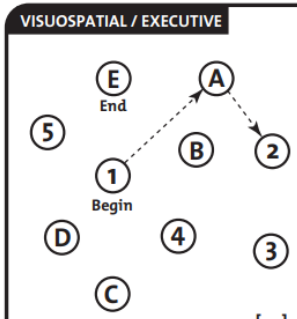
www.mocatest.org, mini-cog.com

Screening Cognitive Testing

MONTREAL COGNITIVE ASSESSMENT (MOCA)

NAME :
Education : Date of birth :
Sex : DATE :

VISUOSPATIAL / EXECUTIVE — POINTS



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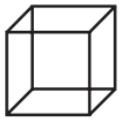


[ ] [ ]

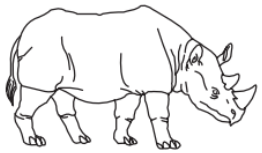
Draw CLOCK (Ten past eleven) (3 points)

[ ] Contour [ ] Numbers [ ] Hands

__/5

NAMING

[ ]



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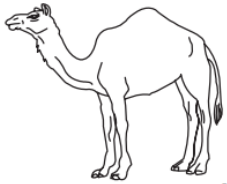

[ ]

__/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 WITH NO CUE	FACE	VELVET	CHURCH	DAISY	RED	Points for UNCUED recall only
		[ ]	[ ]	[ ]	[ ]	[ ]	
Optional	Category cue						
	Multiple choice cue						

__/5

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

__/6

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www.mocatest.org

Normal ≥ 26 / 30

TOTAL __/30

Add 1 point if ≤ 12 yr edu

Mini-Cog©

Instructions for Administration & Scoring

ID: _____ Date: _____

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.[1-3] For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____ _____ _____

Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

www.mocatest.org, mini-cog.com

Additional Clinical Tests

- labs
  - CMP, vitamin B12 and folate, TSH / reflexive fT4

- if office evaluation raises concern for dementia, consider brain scan (noncontrast MRI)
  - rule out brain tumor
  - evaluate for cerebrovascular burden
  - counsel regarding CURES Act immediate results release

When to Consider Referral / Additional Testing

- atypical features
  - rapid progression (severe impairment in < 6 months)
  - prominent initial non-memory concerns: behavioral issues, language issues, visuospatial difficulties
  - hallucinations as part of initial symptoms
  - REM sleep behavior disorder
  - new motor symptoms such as tremor or gait change
  - onset before age 60

Potential Additional Testing

- functional brain scan
  - FDG-PET – Medicare looks for AD versus FTD
- neuropsychological testing
  - versus cognitive evaluation by speech pathology
- lumbar puncture: amyloid/tau profile
  - Mayo Clinic - ADEVL
  - Athena Diagnostics - ADmark 177 test
- neurogenetics consultation
  - presence of ApoEε4 allele does not currently change clinical care
  - autosomal dominant genetic mutation not typically identified

Diagnosis and Disclosure

- if evaluation is reassuring, focus on maintaining cognitive (and cardiac) health
  - vision/hearing screenings, regular aerobic exercise, robust and varied social and cognitive engagement, healthy sleep habits, minimal alcohol use
  - consider repeating MoCA in 1 year

- if work up raises concerns for MCI or dementia, consider scheduling another longer disclosure appointment, with family present
  - mention your concerns so that they will be able to listen to your recommendations at the next visit (instead of just hearing "the A word")

MCI Counseling and Care Plan

- MCI diagnosis indicates the person is at risk for experiencing progressive cognitive decline
  - mention possibility of early Alzheimer's disease
  - "This is good to know, it is helpful to be ready, but change is typically slow; I am here to help if things get worse"
- address modifiable conditions
  - obstructive sleep apnea, alcohol use, vascular risk factors, diabetes, hearing loss, depression
- instill brain healthy habits
  - paper calendar, mediset (in addition to exercise etc)

- repeat MoCA in 1 year
- DPOA-HC *with alternates*

Dementia Counseling and Care Plan

- define dementia versus Alzheimer's disease
- instill brain healthy habits, including family involvement / supervision
  - "with the right support, you can live well with memory loss"
- if indicated, consider a cholinesterase inhibitor
  - goal is slowing rate of decline, not cognitive improvement
- refer to community resources including support groups

- continued follow up
  - optimize general medical health
- DPOA-HC if possible, with alternates

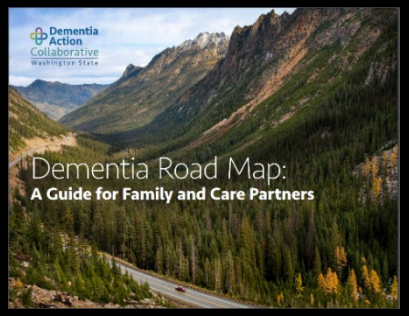
Current Medication Options

- Alzheimer's disease
  - cholinesterase inhibitors (donepezil, rivastigmine, galantamine)
  - NMDA receptor antagonist (memantine)
- Lewy Body disease
  - cholinesterase inhibitors
  - melatonin or low dose benzodiazepine for REM sleep behav
  - *avoid* haloperidol and other first generation antipsychotics
    - neuroleptic malignant syndrome (delirium, fever, rigidity)
- frontotemporal degeneration
  - no specific medications
  - SSRIs can be helpful for curbing compulsive behaviors

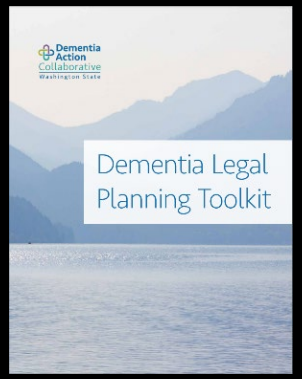
aducanumab – June 2021

- human monoclonal antibody targeting aggregated forms of β-amyloid
  - derived from cognitively healthy older adults
- first new medication in nearly 20 years approved by the FDA for Alzheimer's disease
  - MCI and mild stage dementia due to AD
- considerable controversy regarding cognitive efficacy; full data not yet released by Biogen
- Medicare cost coverage not yet determined
- will need evidence of amyloid biomarker positivity

WA State Resources



- Dementia Action Collaborative
  - https://www.dshs.wa.gov/altsa/dementia-action-collaborative
  - resources for patients and providers



- www.cognition-primarycare.org
- UW Project ECHO® Dementia
  - https://depts.washington.edu/mbwc/resources/echo
  - twice monthly sessions with free CME credit
- UW Memory and Brain Wellness Center
  - https://depts.washington.edu/mbwc/
  - free education and support resources
    - downloadable Handbook
    - monthly "Memory Loss: Next Steps" for newly diagnosed
  - research opportunities

National Resources

- Alzheimer's Association
  - www.alz.org (including local helpline)
- Lewy Body Dementia Association
  - www.lbda.org
- Association for Frontotemporal Degeneration
  - www.theaftd.org (including helpline)

Thank you!

Questions?