Bridging the Gap: Cognitive Decline and the Role of the Primary Care Provider

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Learning Objectives

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By the end of this session, you will be able to:

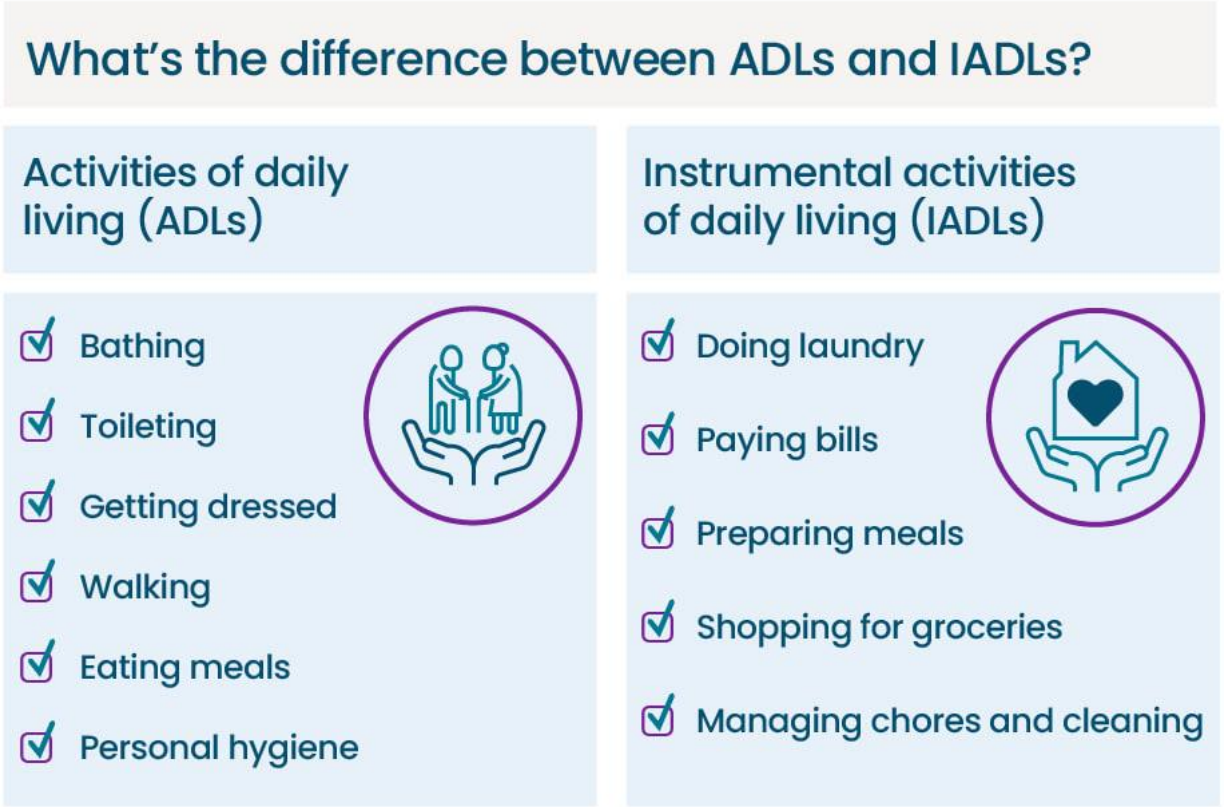
1. **Identify when and how to screen for cognitive impairment in older adults**
2. **Describe an appropriate initial workup in the outpatient setting**
3. **Recognize when referral to specialists is appropriate and needed**
4. **Discuss key counseling points on safety, driving, and caregiver support**

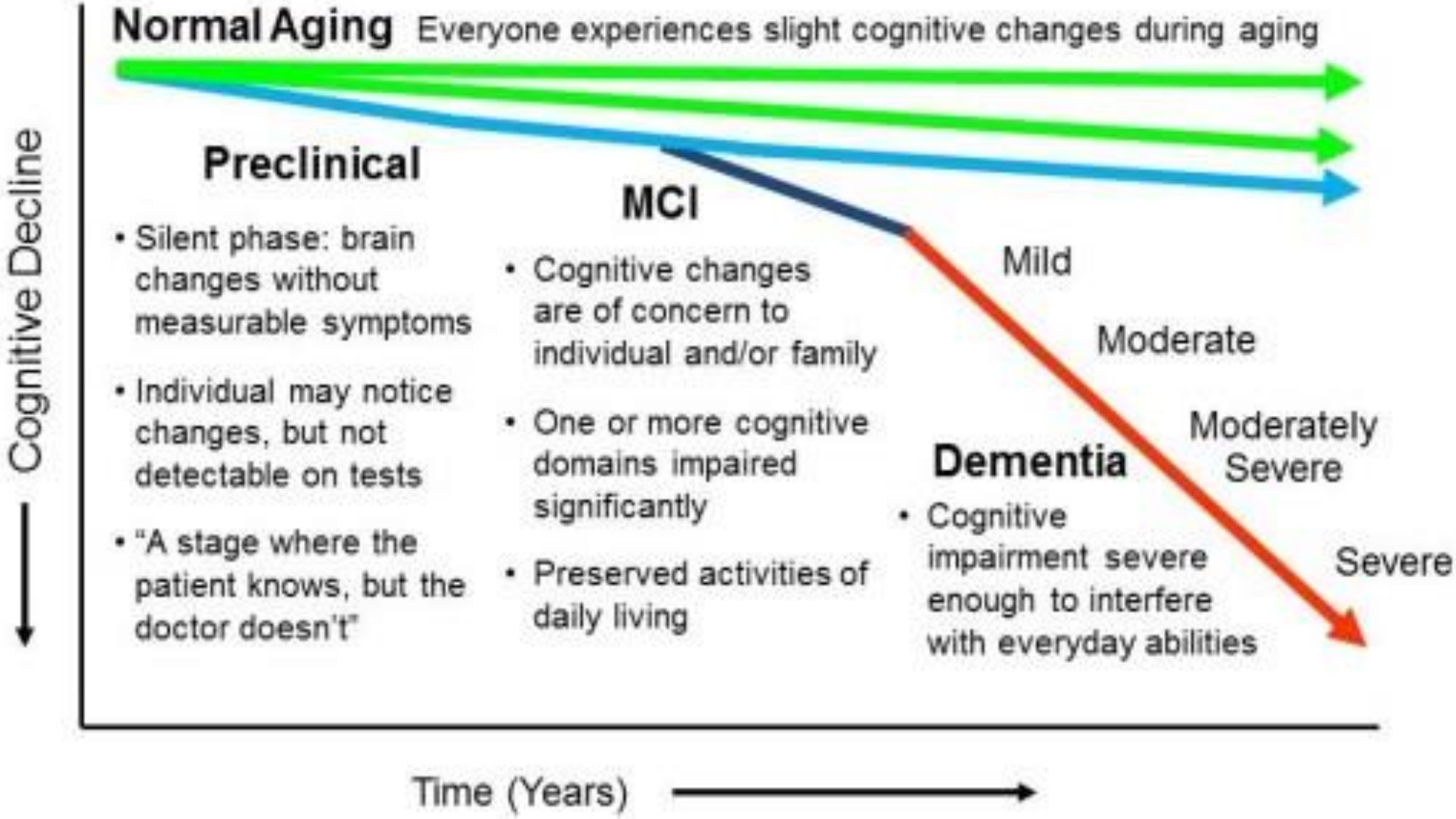
Why This Matters

- 7 million+ Americans live with Alzheimer's disease or some form of cognitive impairment
- Up to 60% of cases are not recognized or formally diagnosed in primary care settings
- Incidence and prevalence increase with age
  - Higher prevalence among African Americans and Latinx patients
- Early identification allows:
  - Planning for care
  - Addressing reversible causes
  - Slowing decline

Quick Definitions

- Mild cognitive impairment: Cognitive impairment with minimal or no impairment in instrumental activities of daily living (IADLs), while basic activities of daily living (BADLs) are preserved
- Dementia: Cognitive impairment that is severe enough to interfere with independence in daily activities, including IADLs and BADLs




Normal Aging
Everyone experiences slight cognitive changes during aging
Preclinical
• Silent phase: brain changes without measurable symptoms
• Individual may notice changes, but not detectable on tests
• "A stage where the patient knows, but the doctor doesn't"
MCI
• Cognitive changes are of concern to individual and/or family
• One or more cognitive domains impaired significantly
• Preserved activities of daily living
Dementia
• Cognitive impairment severe enough to interfere with everyday abilities
Mild
Moderate
Moderately Severe
Severe
Cognitive Decline
Time (Years)

When to Suspect Cognitive Impairment

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- Memory concerns or other cognitive changes (from patient or family)
- Medications errors/adherence
- Mood or personality changes
- Social withdrawal
- Poor chronic disease control (eg, missed insulin doses, missed anti-hypertensives)
- Gait abnormalities or frequent falls
- Difficulty with IADLs or BADLs

Screening Tools Overview

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Tool	Time	Score Range	Notes
Mini-Cog	~3 min	0–5	Fast, good sensitivity, less comprehensive
MoCA	10–15 min	0–30	Best for mild impairment
MMSE	~7 min	0–30	Less sensitive for MCI

Mini-Cog – How It Works

Assessment:

1. 3-word recall
2. Clock-drawing test
3. Recall the 3 words

Scoring:

- 1 point for each recalled word
- 2 points if clock is normal
- **<3 suggests cognitive impairment**

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.

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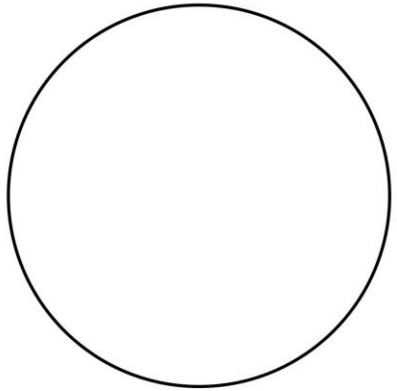
Clock Drawing

ID:_____ Date:_____



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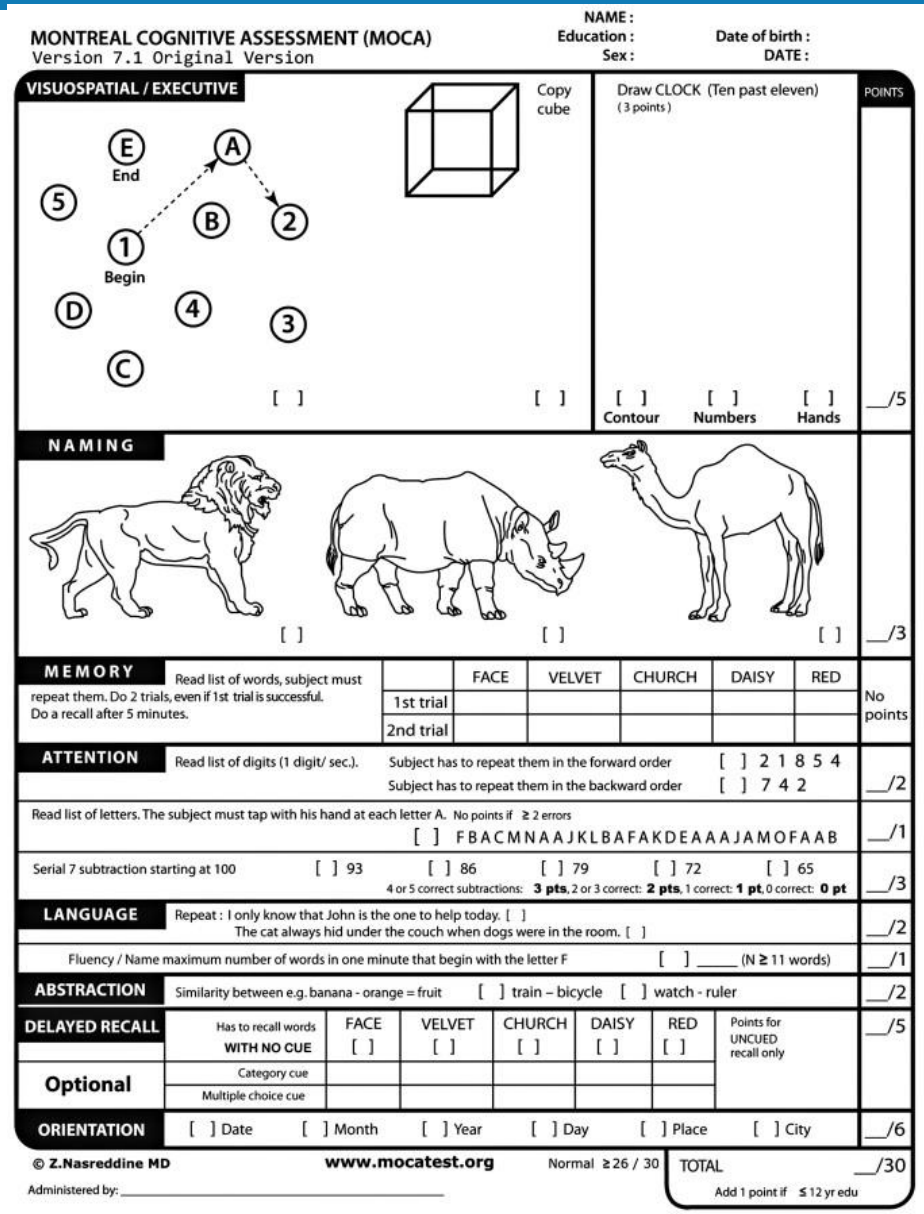
Montreal Cognitive Assessment (MoCA)

- Evaluates multiple cognitive domains, including attention, executive function, memory, language, visuospatial skills, abstraction, calculation, and orientation
- Original validation studies: **Score <26/30 is abnormal**
- More recent validation studies: **Scores <24/30 maximize sensitivity and specificity for detecting MCI**



MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.1 Original Version

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

VISUOSPATIAL / EXECUTIVE — Copy cube — Draw CLOCK (Ten past eleven) (3 points) — POINTS

E End, A, 5, B, 2, 1 Begin, D, 4, 3, C

[ ] [ ] [ ] Contour [ ] Numbers [ ] Hands — /5

NAMING — [ ] [ ] [ ] — /3

MEMORY — Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. 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 — /5

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

ORIENTATION — [ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City — /6

© Z.Nasreddine MD — www.mocatest.org — Normal ≥ 26 / 30 — TOTAL /30
Add 1 point if ≤ 12 yr edu

Administered by: _____

Mini Mental Status Exam (MMSE)

- Evaluates orientation, registration, attention and calculation, recall, and language
- Age and level of education have been found to influence MMSE scores by ~12%

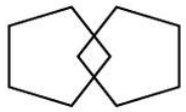
Score	Degree of Impairment	Formal Psychometric Assessment	Day-to-Day Functioning
25-30	Questionably significant	If clinical signs of cognitive impairment are present, formal assessment of cognition may be valuable.	May have clinically significant but mild deficits. Likely to affect only most demanding activities of daily living.
20-25	Mild	Formal assessment may be helpful to better determine pattern and extent of deficits.	Significant effect. May require some supervision, support and assistance.
10-20	Moderate	Formal assessment may be helpful if there are specific clinical indications.	Clear impairment. May require 24-hour supervision.
0-10	Severe	Patient not likely to be testable.	Marked impairment. Likely to require 24-hour supervision and assistance with ADL.

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 Province City Barangay Street	...../ 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

OME Oxford Medical Education

Rowland Universal Dementia Assessment Scale (RUDAS) & Geriatric Depression Scale (GDS)

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R U D A S

The Rowland Universal Dementia Assessment Scale: A Multicultural Cognitive Assessment Scale.
(Storey, Rowland, Basic, Conforti & Dickson, 2004). International Psychogeriatrics, 16 (1), 13-31

Date: ___/___/___ Patient **Name:** _____

Item		Max Score
Memory 1. (Instructions) I want you to imagine that we are going shopping. Here is a list of grocery items. I would like you to remember the following items which we need to get from the shop. When we get to the shop in about 5 mins. time I will ask you what it is that we have to buy. You must remember the list for me. **Tea, Cooking Oil, Eggs, Soap** Please repeat this list for me (ask person to repeat the list 3 times). (If person did not repeat all four words, repeat the list until the person has learned them and can repeat them, or, up to a maximum of five times.)		
Visuospatial Orientation 2. I am going to ask you to identify/show me different parts of the body. *(Correct = 1)*. Once the person correctly answers 5 parts of this question, do not continue as the maximum score is 5.		
(1) show me your right foot	1	
(2) show me your left hand	1	
(3) with your right hand touch your left shoulder	1	
(4) with your left hand touch your right ear	1	
(5) which is (indicate/point to) my left knee	1	
(6) which is (indicate/point to) my right elbow	1	
(7) with your right hand indicate/point to my left eye	1	
(8) with your left hand indicate/point to my left foot	1	
		..../5
Praxis 3. I am going to show you an action/exercise with my hands. I want you to watch me and copy what I do. Copy me when I do this . . . (One hand in fist, the other palm down on table - alternate simultaneously.) Now do it with me: Now I would like you to keep doing this action at this pace until I tell you to stop - approximately 10 seconds. (Demonstrate at moderate walking pace). Score as: *Normal = 2 (very few if any errors; self-corrected, progressively better; good maintenance; only very slight lack of synchrony between hands)* *Partially Adequate = 1 (noticeable errors with some attempt to self-correct; some attempt at maintenance; poor synchrony)* *Failed = 0 (cannot do the task; no maintenance; no attempt whatsoever)*		
		..../2
Visuoconstructional Drawing 4. Please draw this picture exactly as it looks to you (Show cube on back of page). *(Yes = 1)* Score as:		
(1) Has person drawn a picture based on a square?	1	
(2) Do all internal lines appear in person's drawing?	1	
(3) Do all external lines appear in person's drawing?	1	
		..../3
Judgment 5. You are standing on the side of a busy street. There is no pedestrian crossing and no traffic lights. Tell me what you would do to get across to the other side of the road **safely**. (If person gives incomplete response that does not address both parts of answer, use prompt: "Is there anything else you would do?") Record exactly what patient says and circle all parts of response which were prompted. .... Score as: Did person indicate that they would look for traffic? *(YES = 2; YES PROMPTED = 1; NO = 0)* .....2 Did person make any additional safety proposals? *(YES = 2; YES PROMPTED = 1; NO = 0)* 2		..../4

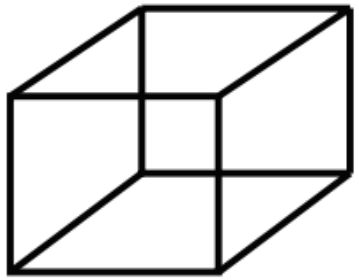
Memory Recall
1. (Recall) We have just arrived at the shop. Can you remember the list of groceries we need to buy? (Prompt: If person cannot recall any of the list, say "The first one was 'tea'." *(Score 2 points each for any item recalled which was not prompted – use only 'tea' as a prompt.)*

Tea
Cooking Oil
Eggs
Soap

Language
6. I am going to time you for one minute. In that one minute, I would like you to tell me the names of as many different animals as you can. We'll see how many different animals you can name in one minute. (Repeat instructions if necessary). Maximum score for this item is 8. If person names 8 new animals in less than one minute there is no need to continue.

1. ..... 5. .....
2. ..... 6. .....
3. ..... 7. .....
4. ..... 8. .....

TOTAL SCORE =



Geriatric Depression Scale (short form)

Instructions: Circle the answer that best describes how you 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 things?	yes	no
10. Do you feel that 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 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

Total Score _____

Workup in Primary Care

- Initial steps:
  - Full history + family input
  - Review meds: anticholinergics, sedatives, opioids
  - Cognitive screening
- Labs:
  - CBC, CMP, TSH, B12
  - Consider folate (+/- homocysteine), RPR, HIV, ESR/CRP

- Imaging:
  - MRI brain > CT head
    - If focal neurologic signs, gait disturbance, recent trauma, rapid decline
  - PET scan

Differentials to Consider

- **Normal aging** → Mild decline in episodic and working memory, ADLs usually preserved
- **Pseudodementia** → Associated with major depressive disorder (MDD), cognitive deficits usually AFTER mood symptoms, cognition usually improves after MDD treatment
- **Alzheimer disease (AD)** → Slowly progressive (over 8-10 years), characteristic order of language impairment (naming, comprehension, fluency)
- **Vascular dementia (VD)** → May present with abrupt cognitive decline and stepwise deterioration
- **Dementia with Lewy bodies (DLB)** → Visual hallucination and parkinsonian motor disorders
- **Frontotemporal dementia (FTD)** → Usually between ages 40-70, early changes in personality, apathy
- **Parkinson** → Cognitive impairment develops in advanced disease, bradykinesia, resting tremor, rigidity
- Others: Normal pressure hydrocephalus, Wernicke encephalopathy, Creutzfeldt-Jakob disease

When to Refer

- Refer to **Neurology**, **Geriatrics**, or **Neuro Memory** if:
  - Onset <65 years old
  - Rapid decline or atypical presentation
  - Severe behavioral disturbances
  - Unclear diagnosis despite workup
- Refer to **Neuropsychology** if:
  - High functioning patient with subtle symptoms
  - Legal/financial capacity questions (eg, for independent living, driving, or decision-making concerns)

Table 2. Atypical Early Features of Alzheimer's Disease and Other Diagnostic Considerations.

Feature	Diagnostic Consideration
Abrupt onset	Vascular dementia
Stepwise deterioration	Vascular dementia
Prominent behavioral changes	Frontotemporal dementia
Profound apathy	Frontotemporal dementia
Prominent aphasia	Frontotemporal dementia Vascular dementia
Progressive gait disorder	Vascular dementia Hydrocephalus
Prominent fluctuations in level of consciousness or cognitive abilities	Delirium due to infection, medications, or other causes Dementia with Lewy bodies Seizures
Hallucinations or delusions	Delirium due to infection, medications, or other causes Dementia with Lewy bodies
Extrapyramidal signs or gait	Parkinsonian syndromes Vascular dementia
Eye-movement abnormalities	Progressive supranuclear palsy Wernicke's encephalopathy

Management and Follow-Up

- Treat modifiable contributors:
  - Depression, sleep apnea, uncontrolled DM, physical inactivity
- Discuss medications:
  - Donepezil → Cholinesterase inhibitor
  - Memantine → NMDA-receptor antagonist, approved for moderate to severe AD
  - SSRIs, anti-psychotics, etc.
- Follow up every 6-12 months
- Refer for caregiver support and community resources

Counseling Families

- Be honest but compassionate
- Use language like: “You’re right to be concerned. These symptoms may suggest early cognitive changes.”
- Discuss what a diagnosis does:
  - Unlocks resources
  - Helps with safety and financial planning
  - Allows shared-decision making
- Include the family in next steps
- Normalize grief, fear, frustration
- Provide strategies for caregiver burnout and provide referrals for assistance (eg, social work, home health, adult day care)

Summary and Takeaways

- Early cognitive screening fits into primary care practice
- Mini-Cog and MoCA = Your best tools
- Know when to dig deeper or refer
- Engage the family early if cognitive concerns
- Plan for safety, not just diagnosis

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Thank you!