

Montreal Cognitive Assessment (MoCA)

Overview for Best Practice in Stroke and Complex Neurological Conditions


March 2013

MoCA

MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.1 Original Version

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



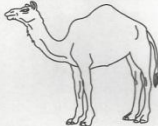
VISUOSPATIAL / EXECUTIVE

Copy cube  []

Draw CLOCK (Ten past eleven) (3 points) []

Points: _____/5

NAMING

 []  []  []

Points: _____/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	No points
1st trial						
2nd trial						

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

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

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

Points: _____/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. []

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

Points: _____/2

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

Points: _____/2

DELAYED RECALL

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

Points: _____/5

Optional

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

Points: _____/6

© Z.Nasreddine MD www.mocatest.org Normal ≥ 26 / 30

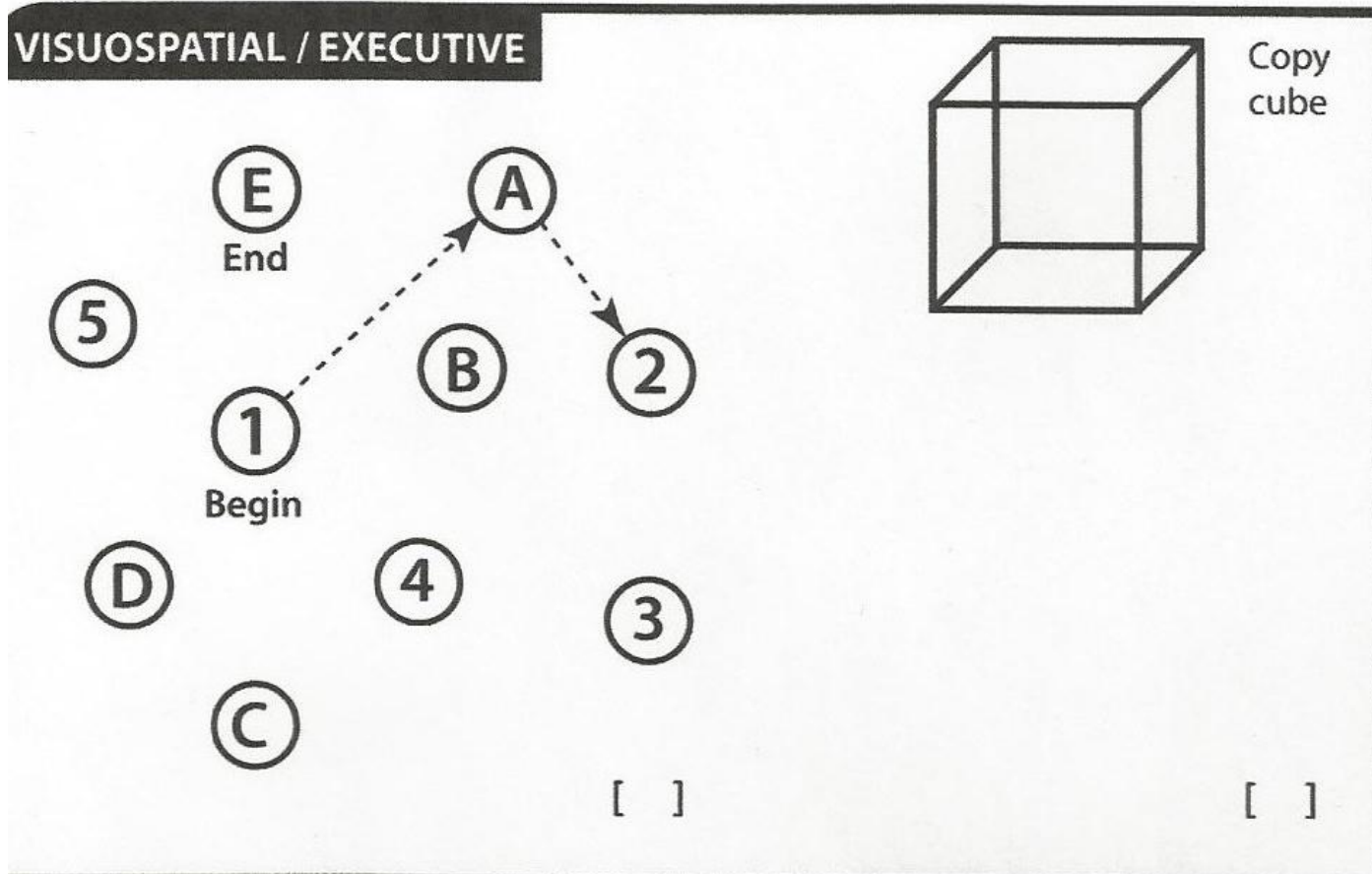
Administered by: _____

TOTAL _____/30
Add 1 point if ≤ 12 yr edu

Overview of the MoCA

- Takes approximately 15 minutes to administer
- Requires informed consent
- It is a screening tool and not diagnostic

MoCA Executive Cognition Trail Making Test



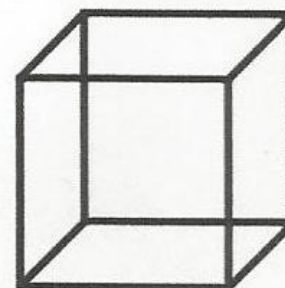
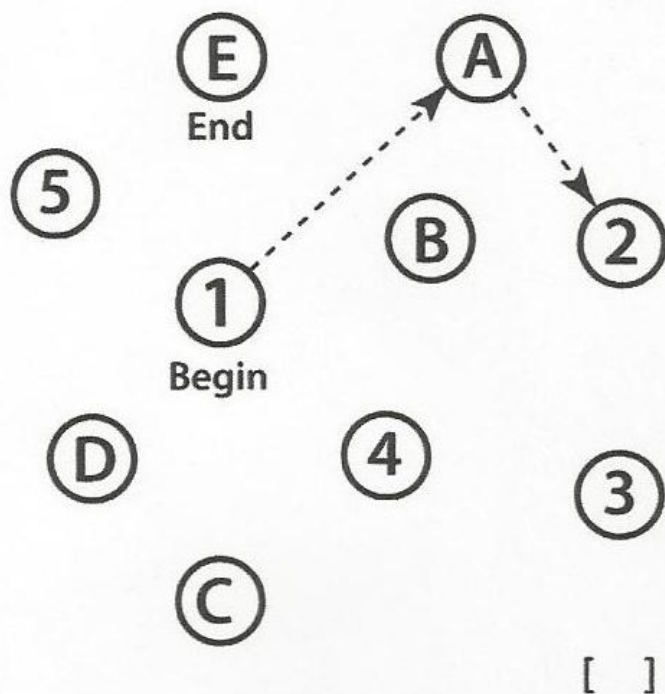
MoCA Executive Cognition

Instructions

- “Please draw a line, going from a number to a letter in ascending order. Begin here (1) and draw a line from 1 then to A then to 2 and so on. End here (E).”
- This is a mini version of a test called Trails B.
- It is testing the ability to alternate attention between two streams of thought and keep track of the overall goal.

MoCA Visuospatial Cube Copy Test

VISUOSPATIAL / EXECUTIVE

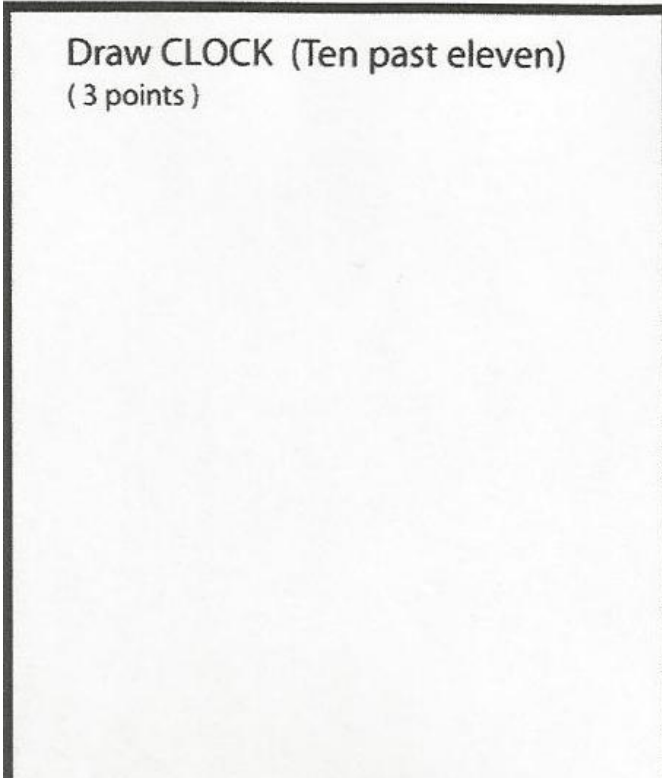


Copy
cube

MoCA Visuospatial Instructions

- “Copy this drawing as accurately as you can, in the space below”.
- This challenges the ability to visually perceive and reproduce the 3D looking shape on the flat paper.
- This requires visual motor integration, depth perception, spatial awareness, and visual closure skills.

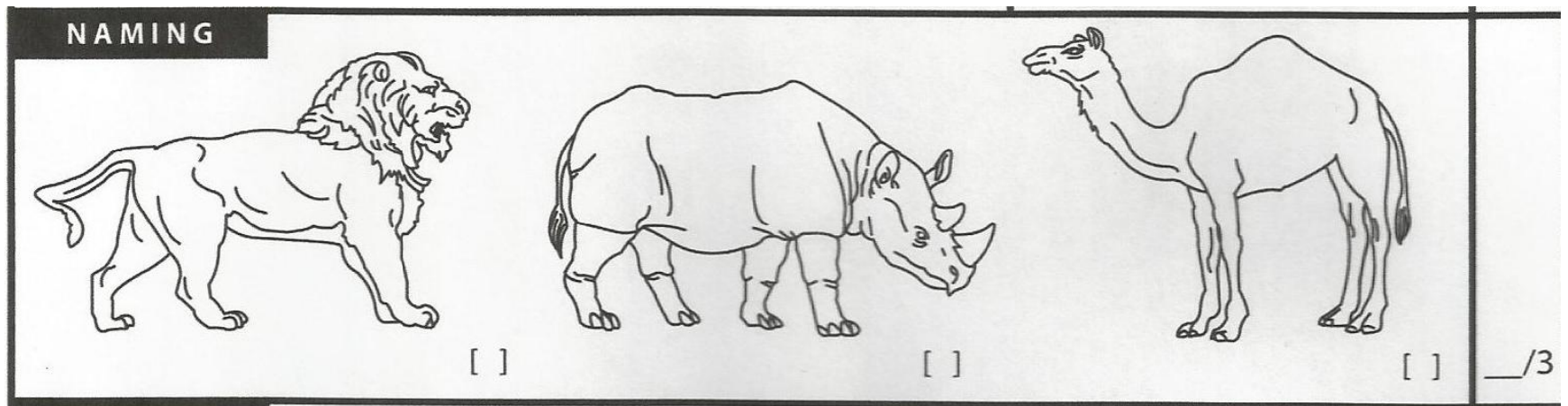
MoCA Executive Cognition and Visuospatial Clock Draw Test

Draw CLOCK (Ten past eleven) (3 points)			POINTS
			
<input type="checkbox"/> Contour	<input type="checkbox"/> Numbers	<input type="checkbox"/> Hands	___/5

MoCA Clock Draw

- “Draw a clock. Put in all the numbers and set the time to 10 after 11”.
- This shows us cognitive and visuospatial skills as discussed in The Clock Drawing Test a few minutes ago.
- Note the 3 point scoring system.

MoCA Naming Task



MoCA Naming Task Instructions

- “Tell me the name of this animal” as you point from left to right.
- This simply checks for basic word finding/picture recognition skills.
- Don’t accept “tiger”, “hippo” or “giraffe”

MoCA Immediate Memory Task

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	No points
	1st trial						
	2nd trial						

MoCA Immediate Memory Task

Instructions

- “This is a memory test. I am going to read a list of words that you will have to remember now and later on. Listen carefully. When I am through, tell me as many words as you can remember. It doesn’t matter in what order you say them”.
- Give words and ask them to tell you as many as they can.
- “I am going to read the same list for a second time” Try to remember and tell me as many words as you can, including words you said the first time”
- Give words and ask them to tell you them back.
- “I will ask you to recall those words again at the end of the test”.
- Note that no points are awarded for immediate recall.

MoCA Attention Tasks

ATTENTION						
Read list of digits (1 digit/ sec.).	Subject has to repeat them in the forward order		[] 2 1 8 5 4	___/2		
	Subject has to repeat them in the backward order		[] 7 4 2			
Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors				___/1		
[] FBACMNAAJKLBAFAKDEAAAJAMOF AAB						
Serial 7 subtraction starting at 100	[] 93	[] 86	[] 79	[] 72	[] 65	___/3
	4 or 5 correct subtractions: 3 pts , 2 or 3 correct: 2 pts , 1 correct: 1 pt , 0 correct: 0 pt					

MoCA Attention Task Instructions

- “I am going to say some numbers and when I am through, repeat them to me exactly as I say them”.
- “Now I am going to say some numbers and when I am through you must repeat them to me in the backwards order”
- “I am going to read a sequence of letters. Every time I say the letter A, tap your hand once. If I say a different letter, do not tap your hand”.
- “Now I will ask you to count by subtracting seven from 100, and then, keep subtracting seven from your answer until I ask you to stop”. You may repeat this instruction a second time if necessary.
- Note the scoring method for the serial 7’s.

MoCA Language Tasks

LANGUAGE	Repeat : I only know that John is the one to help today. []	___/2
	The cat always hid under the couch when dogs were in the room. []	
	Fluency / Name maximum number of words in one minute that begin with the letter F [] _____ (N ≥ 11 words)	___/1

MoCA Language Task Instructions

- “I am going to read you a sentence. Repeat it after me, exactly as I say it.”
- “Now I am going to read you another sentence. Repeat it after me, exactly as I say it”.
- Tell me as many words as you can think of that begin with a certain letter of the alphabet that I will tell you in a moment. You can say any kind of word you want, except for proper nouns (like Bob or Boston), numbers, or words that begin with the same sound but have a different ending, for example, love, lover, loving. I will tell you to stop after one minute. Are you ready? Now, tell me as many words as you can beginning with the letter F”.
- These tasks look at auditory attention and recall as well as verbal fluency and comprehension of verbal instructions.

MoCA Abstraction Task

ABSTRACTION

Similarity between e.g. banana - orange = fruit

[] train - bicycle

[] watch - ruler

___/2

MoCA Abstraction Instructions

- “Tell me how an orange and a banana are alike”.
- If they answer in a concrete manner, say “Tell me another way they are alike”. If needed, say, “yes, and they are both fruit”.
- “Now tell me how a train and a bicycle are alike”.
- “Now tell me how a ruler and a watch are alike”.
- This is looking at categorization which is an efficiency our brains use in order to make generalizations.

MoCA Delayed Recall

DELAYED RECALL	Has to recall words WITH NO CUE	FACE []	VELVET []	CHURCH []	DAISY []	RED []	Points for UNCUED recall only	___/5
Optional	Category cue							
	Multiple choice cue							

MoCA Delayed Recall Instructions

- “I read some words to you earlier, which I asked you to remember. Tell me as many of those words as you can remember”.
- Note, you can check whether they encoded the words and just have difficulty retrieving them by giving category cues or multiple choice cues but these cannot be scored.

MoCA Orientation Task

ORIENTATION	<input type="checkbox"/> Date	<input type="checkbox"/> Month	<input type="checkbox"/> Year	<input type="checkbox"/> Day	<input type="checkbox"/> Place	<input type="checkbox"/> City	<input type="text"/> /6
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MoCA Orientation Instructions

- “Tell me the date today.” prompt accordingly for specifics.
- “Now tell me the name of this place and what town it is in”.

MoCA Scoring

- Add up the total points.
- If the client has less than 12 years of formal education, add one point.
- A “normal” score is equal to or greater than 26/30.
- This test does not try to differential between mild, moderate and severe cognitive impairment.
- It is much more sensitive for picking up mild cognitive impairment than the mini mental.
- If client scores 25 points or less, consider referral for in-depth cognitive evaluation.

Obtaining the MoCA

- Simply go to www.mocatest.org for the test and instructions.
- There are alternate versions of the test for test-retest reliability.
- There is an alternate version of the MoCA that has been validated for use with patients with visual impairment.
- Note that this test does not check basic reading/writing capacity.

Client suitability of the MoCA

- Anyone suspected of having a mild cognitive impairment.
- Heavily language dependent so not appropriate with significant aphasia.
- The MoCA does not evaluate judgement and insight.
- It is not a test for decision making capacity.
- Lower level clients may find the MMSE less frustrating.

MoCA

- Questions?