



INSTRUCTIONS FOR THE MINI MENTAL STATE EXAM (MMEO) FORM for Visit 9 and 11

I. General Instructions

The general instructions for the MMEO are the same as those described in the neurocognitive battery QxQ. Please review section III.B of the NCS_CO_QxQ for details.

Detailed Instructions for Each Item

0a. Enter the date the participant was tested.

0b. Enter the staff ID for the person who did the interview.

The following instructions may also be found in section III.B. of the NCS_CO_QxQ.

1. Administration

- a) Introduce the cognitive testing portion of the exam: **"In this next part of the exam I will ask you some questions and give you some short tasks that will require memory and concentration. Some may be a little bit more difficult than others."**

2. Blessed Test Items (Questions 0c-0f)

- a) These items have been added to the MME form for efficiency.
- b) Read each question and record responses. One point is given for each correct response.
- c) If unsure whether a response is correct or not, record the participant's response on the scoring sheet and seek clarification after the testing session.
- d) Q0e. First and last name is sufficient for "full name" to be correct.
- e) Q0f. The participant must be within one hour for the "time of day" to be correct.

3. Orientation to Time (Questions 1-5)

- a) Read each question and record responses. One point is given for each correct response.
- b) If unsure whether a response is correct or not, record the participant's response on the scoring sheet and seek clarification after the testing session.
- c) If the participant gives only the last two digits of the year, prompt by saying, **"What is the full year?"**
- d) Some leeway is allowed for the correct response to season:
 - (1) Winter: December, January, February, March
 - (2) Spring: March, April, May, June
 - (3) Summer: June, July, August, September
 - (4) Fall/Autumn: September, October, November, December
- e) If the month has just changed (or is about to change), it is correct to say either month (i.e., it is within one "day" of the correct month).
- f) If the participant gives the date when prompted for the day, give credit for date (item 5) if the response is correct, and say: **"Good, and what day of the week is it?"**

4. Orientation to Place (Questions 6-10)

- a) Read each question and record response. One point is given for each correct response.
- b) The correct answer to **"What is the name of the place where we are right now?"** will obviously vary by Field Center and location (clinic vs. home). Any correct name that is reasonably specific is acceptable (e.g., University Medical Center, ARIC clinic, my home, nursing care facility, etc.). If a generic or vague response is given (e.g., hospital), the examiner should prompt for a more detailed response, e.g., **"Can you tell me a more specific name for this place?"** or **"If you were**

telling someone where you were coming today, what would you tell them?”.

- c) **“Are we on the ground floor or higher floor of this building?”** can be asked in the clinic, multi-level nursing home or long-term care facilities. An alternative question for home visits would be, **“Is this a one or two story house?”**

5. Registration (Questions 11-13) NOTE: the 3 words used will change each year. The words in this script are used in Visits 9 and 11.

- a) Explain the rules as follows, **“I am going to name three words. After I have said all three words, I want you to repeat them all back to me. Ready? Repeat these words after me: face, velvet, daisy. Please try to remember what they are, because I am going to ask you to name them again in a few minutes.”**
- b) Score one point for each word repeated correctly on the first attempt. If the participant is unable to recall all three words, give 2 more trials until he/she correctly names all three. If after 3 attempts (initial exposure plus 2 additional trials) the participant is unable to correctly repeat all 3 words, move on to the next question. In this case, items 24-26 (recall) should not be asked and would be scored as “not attempted/refused.”

6. Attention and Concentration (Questions 14-18)

- a) Say, **“How do you spell the word, World?”**
- b) If the participant is unable to spell “WORLD” forward, prompt with **“It is spelled W-O-R-L-D”** at the rate of ~ 1 second per letter. Coach only once, then continue with the second part of the question, even if the performance in spelling forward is not perfect.
- c) Ask the participant: **“How would you spell it backwards?”**
- d) Score one point for each letter given in correct order. Allow additional attempts, if requested. If a letter is omitted, score a point for all letters in correct order. Example: DROW would have 4 letters correctly placed. (L was skipped.) If the ppt gives more than 5 letters, use the first 5 letters to score. Refer to the WORLD scoring sheet for specific scoring examples.

Mini-Mental State Examination (MMSE) **Scoring Key for Spelling WORLD Backwards**

5 point	4 point	3 point	2 point		1 point		0 point	
DLROW	_LROW	DELW	D_ROD	DO_LW	_ROLD	DR	12345	R
	DILRW	DL__W	DDW	DOAW	BOWLD	DRAL	4	RB
	DL_OW	DL_LW	DL	DOL_W	D	DRALD	A	RDOLD
	DLDOV	DL_R	DL_LD	DOLR	D_ORD	DRING	ARHR	RLDO
	DILRW	DLAW	DL_O	DOLRD	D_R	DRL	B	SWALD
	DLO_W	DLDR	DL46	DOLW	DA	DRLA9	BALD	U
	DLODW	DLDRD	DLA	DONRW	DAKL	DRIC	BLD	UOL
	DLOOW	DLDW	DLA7	DORHW	DAY	DRLD	E	W
	DLOUW	DLERO	DLAB	DORLW	DC	DRLO	EAHR	W_RL
	DLOW	DLEW	DLB	DOROL	DD	DRLOD	ELBO	WA_LD
	DLOWD	DLLW	DLD	DORW	DDWOR	DRLWD	ENAOU	WALRD
	DLR_W	DLOIW	DLDO	DOWAB	DE	DRLWO	GB	WARD
	DLRAW	DLOLW	DLDO	DOWAL	DEALD	DROAL	HO	WARLE
	DLRLO	DOLORO	DLE	DOWE	DEID	DROLD	L	WERLD
	DLRLW	DLORW	DLEM	DOWL	DEIHL	DRWL	LAD	WH
	DLRO	DLOWA	DLES	DOWLD	DER	DRWLD	LD	WHO
	DLROD	DLOWL	DLG	DOWLW	DEWOR	DRWOL	LDO	WIRP
	DLROE	DLOWR	DIL	DOWOL	DO	DWALD	LDOR	WL
	DLROL	DLR	DLLD	DOWOR	DOALD	DWL	LDORH	WLDOR
	DLROO	DLR_D	DLE	DOWR	DOD	DWLD	LDORL	WLDOR
	DLROR	DLRAD	DLLOR	DOWRE	DOIL	DWLI	LDWLD	WLOD
	DLROY	DLRD	DLLU	DOWRL	DOL	DWLR	LDWO	WLS
	DLRRO	DLRDL	DLM	DR__W	DOLB	DWO	LDWRL	WO_LD
	DLRRW	DLRL	DLNOR	DR_W	DOLD	DWOL	LERD	WOLD
	DLRW	DLRLD	DLO	DRADW	DOLO	DWOLD	LLFA	WOLED
	DLUOW	DLRN	DLOB	DRL_W	DOR	DWOR	LOCBL	WOLRD
	DLVRO	DLRRD	DLOD	DRLRD	DORD	DWORD	LODA	WOR
	DLWOW	DLRUR	DLODL	DRLW	DORDL	DWORL	LOPD	WORAL
	DLWRO	DLRWD	DLODR	DRO	DORL	LDORW	LORD	WORLD
	DOROW	DLRWO	DLOHT	DROD	DORLD	DLOWR	LORL	WRLD
	DR_OW	DLW	DLOL	DROF	DORWD	LDRO	LORLD	WORLD
	DROOW	DLWDW	DLOLD	DROL	DORWL	LDRWO	LRWD	WWWLO
	DROW	DOLOW	DLOLO	DROLO	DORWR	LORDW	LRWO	
	LROW	DOOW	DLOLR	DROR	DOUWL	LOROD	LWD	
	LWROW	DOW	DLOOO	DROU	DOYLD	LORW	M	
		DOWOW	DLOR	DROWL		LOWL	NOLOR	
		DRLOW	DLORD	DRW		LOWR	NORLD	
		DRODW	DLORF	DUW		OLEW	O	
		DROLW	DLORL	DW		RO	OLD	
		DRORW	DLORY	DWOWD		RW	OLDE	
		LDROW	DLPGR	DWROL		WAROR	OLWRD	
		LRO	DLPS	DWROR			ORLD	
		LROR	DLWAD	LDLOW				
			DLDO	LDOW				
			DLWOL	LOW				
			DLWOR	LRDW				
			DLWR	LRW				
			DLY	OW				
			DNLD	RLOW				
				ROWLD				

7. Naming (Questions 19-20)
 - a) Point to a pencil. SAY, **"What is this called?"** RECORD whether response is correct or not. If the participant gives a function (e.g., you write with it), say: **"Yes, but what is it called?"**
 - b) Point to a wristwatch. SAY, **"What is this called?"** RECORD whether response is correct or not.
8. Repetition (Question 21)
 - a) Say, **"Repeat this phrase after me: No ifs, ands, or buts."**
 - b) One repetition is permitted at the participant's request, if the participant has not yet verbalized a response.
 - c) Record whether the participant correctly repeats the phrase. One point is given for an exact repetition of the phrase.
9. Writing (Question 22)
 - a) Give the participant a pencil and a blank piece of paper and have the participant write a sentence of his or her choice. Correct grammar, spelling, and punctuation are not necessary; score correct if the sentence contains a subject and a verb. Note dominant hand used.
 - b) Say, **"Please write any complete sentence you can think of on this paper."**
 - c) If needed, prompt by saying: **"Write a sentence about the weather"**.
 - d) Score 1 point if the participant is able to write a complete sentence (even if not about the weather). A sentence with an implied subject (e.g., "close the door") is acceptable. If the sentence is illegible, asked the participant to read it aloud for scoring. Greetings or salutations are not acceptable, e.g., "Happy Birthday" or "Good Morning".
10. Drawing (Question 23)
 - a) Give the participant a pencil, a piece of paper, and the laminated card with the overlapping pentagons. The card should be oriented in the same direction as the drawing shown on the MMSE form.
 - b) Say, **"Here is a drawing. Please copy the drawing on this piece of paper."**
 - c) Allow 1 minute for copying. Note dominant hand used for the drawing task.
 - d) Score 1 if all sides and angles are preserved and two five-sided figures intersect to form a four-sided figure within 60 seconds. Only convex pentagons are admissible. Ignore tremor, rotation, minor gaps, and self-correction.
11. Recall (Questions 24-26)
 - a) Say, **"Now, what were those three words I asked you to remember?"**
 - b) RECORD whether or not face, velvet, daisy were recalled. No hints are given.
12. Comprehension (Questions 27-29)
 - a) Recall dominant hand used for the drawing task.

- b) Say, **“Listen carefully, because I'm going to ask you to do something.”** Hold up a piece of paper in plain view of the participant but out of reach. **“Take this paper in your <non-dominant > hand (pause), fold it in half (pause), and put it on the floor”** (substitute **“Hand it back to me,”** if the participant is disabled or bed-bound or otherwise unable to reach the floor).
- c) After saying the entire command, hold the paper within reach of the participant (but not in favor of either hand). Do not repeat any individual part of the command. One repetition is permitted at the participant's request, but the entire command must be repeated verbatim. If the participant reaches for the paper immediately after hearing the first portion of the command, move your hand away so that the paper is out of reach and continue to state the next two parts of the command without interruption. If the ppt has already taken the piece of paper and requests a repetition of the instructions, you must get the paper back from the ppt and repeat the entire instruction verbatim.
- d) Q27 - Score 1 point if the participant takes paper in non-dominant hand.
- e) Q28 - Score 1 point if the participant folds the paper in half.
- f) Q29 - Score 1 point if the participant places the paper on the floor.

13. Reading (Question 30)

- a) Display laminated card containing the sentence command ‘CLOSE YOUR EYES’.
- b) Say, **“Please read this sentence out loud and then do what it says.”**
- c) The participant can be reminded not just to read a sentence, but to perform the action. If the participant is unable to read, read the sentence out loud.
- d) Score 1 point only if the participant closes his/her eyes.

14. Scoring (Questions 31-32)

- a) Q31 - CDART will calculate the MMSE total score. The score is calculated as follows:
 - (1) One point is scored for each correct answer. (0 items are not included in the total score.)
 - (2) Zero points are scored for:
 - (a) Incorrect or “don't know” responses
 - (b) Items that were not attempted or refused due to task difficulty (i.e., due to cognitive impairment); these should be marked as “incorrect.”
 - (3) Items that are not attempted/refused due to any reason other than cognitive impairment (e.g., vision or hearing problems) are marked as “not attempted/refused” on the paper form and left blank in CDART. Those blank items should be set to missing in field status on the missed field in CDART. Adding a note log may be helpful to explain why those items were not attempted, but a notelog does not have to be entered for every single not-attempted item. A prorated score is generated for the

MMSE in the case where items were not attempted. All other item responses should be entered into the DMS, which will calculate the total score for item 31.

- b) Q32 - Count the number of questions that were “not attempted/refused” due to a physical impairment and enter the total (considering only Q1-Q30). If none, enter 0.