

English version Dépistage Cognitif de Québec DCQ

Laforce R Jr, Sellami L, Bergeron D, Paradis A, Verret L, Fortin MP, Poulin S, Macoir J, Hudon C, & Bouchard RW

Clinique Interdisciplinaire de Mémoire CHU de Québec – Université Laval Hôpital de l'Enfant-Jésus, Québec www.dcqtest.org

Examiner:		Date:	
PARTIC	CIPANT INFO	DRMATION	
Last name:		First name:	
Telephone #: ()	Age:	Sex:	Handedness:
Level of education:years Occupation:			CDR:
Name of a caregiver:		_ Telephone #: <u>(</u> _)
	ICAL INFOR	MATION	
Diagnosis:			
Alternative diagnoses:			
Medication:			
Medical follow-up by family MD □ and/or specia	alist 🗆		
<u></u>	Which one	?:	
	OTHER TES	STS .	
MMSE: 100-7: WORLD:		MoCA:	
Date of administration://(dd/mm/yy)		Date of administra	ation:/ (dd/mm/yy)

*Note : Pages 13 and 14 will be used by the participant.

Use of masculine gender includes the feminine and is employed solely to facilitate reading.

Index 1: Memory

1. Forward digit span

"I am going to read you some numbers. Listen carefully, and when I am finished, repeat them in the same order. For example, if I say 8-1, you say..."

- Continue with item 2 and read the numbers at a pace of one per second.
- Write the subject's response and score 0 or 1.
- Stop the test at the first error.
- Do not count the Digit span in the DCQ score.

Item	Series	Response	Score (0 or 1)
1	8-1		/1
2	4-1-6		/1
3	7-9-4-5		/1
4	1-6-3-9-2		/1
5	2-4-1-6-8-3		/1
6	6-1-7-5-8-2-4		/1

2. Immediate recall

- A. Present the WORD LIST and say "Read these words out loud, from top to bottom, and try to remember them because I will ask you to repeat them later."
 - Once the eight words have been read, leave the card in front of the subject.
- B. "Tell me which one is the animal?" and so on, according to the list of categories within the table below.
 - Correct any errors.
- C. Hide the words from the subject and say: "Now, begin with the number 97 and count backwards by sets of 3s. Keep taking away 3 from the number you obtain until I ask you to stop."
 - 97 ____ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
 - Record the first answers above and stop the subject after 15 seconds.
- D. "Among the words you just read, tell me all the words you can remember in any order."
 - Circle "F" in the table below for all the words they remembered correctly during the free recall.
 - If an error is made (ex. hippopotamus), correct them by saying the appropriate word, for example: "The animal was Elephant."
- **E.** For all of the words not remembered using free recall, provide a category cue, and say: "What was the [category name]?"
 - Circle "C" for correct cued recalls.
 - For errors or words not recalled, say the appropriate word, for example: "The animal was Elephant."
 - When there is a failure for both free and cued recall, put an X in the "Does not know" column.
- **F.** Record the time at which you completed Immediate recall and perform the Delayed recall 15 minutes later. Administer Indexes 2 and 3 during this 15 minutes delay, then return to page 4.

		lmı	mediate re	ecall
Words	Categories	Free	Cued	Does not know
Elephant	Animal	F	С	
Jacket	Clothing	F	С	
Tango	Dance	F	С	
Celery	Vegetable	F	С	
Volleyball	Sport	F	С	
Electrician	Occupation	F	С	
Pineapple	Fruit	F	С	
Copper	Metal	F	С	
Immed	iate recall score			
	(F+C)	/	' 8	

Time upon completion of Immediate recall: _____

- 3. Delayed recall (15 minutes after Immediate recall)
 - A. Record the time at which Delayed recall began, and say: "Earlier, I had you read a list of words that you had to memorize. Tell me all the words that you remember, in any order."
 - Circle "F" for words correctly recalled.
 - **B.** For all of the words not remembered using free recall, provide a category cue, and say: "What was the [category name]?"
 - Circle "C" for words correctly recalled.
 - When there is a failure of cued recall, make an X in the "Does not know" column.

	Delayed recall
Categories	Doornot

Time at which Delayed recall began:

		D	elayed red	all
Words	Categories	Free	Cued	Does not know
Elephant	Animal	F	С	
Jacket	Clothing	F	С	
Tango	Dance	F	С	
Celery	Vegetable	F	С	
Volleyball	Sport	F	С	
Electrician	Occupation	F	С	
Pineapple	Fruit	F	С	
Copper	Metal	F	С	
Delaye	d recall score			
	(F+C)	/	8	

- 4. Recognition (immediately after Delayed recall)
 - A. "I am going to read you a new list of words that contains those you read earlier, and some new words. For each word, say 'yes' if it was a word from the list that you read previously or 'no' if it was not."
 - Say: "For example, if I say 'Shirt', was this a word on the list, yes or no?"
 - For the following words, simply say the word and wait for the response.

Words	Yes	No	False positives
Shirt			
Elephant			
Lead			
Electrician			
Lion			
Pineapple			
Carrot			
Tango			
Celery			
Mechanic			
Volleyball			
Samba			
Copper			
Banana			
Football			
Jacket			
Recognition score (Number of "yes" in the white boxes minus the number of false positives)	/8		

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Index 2: Visuospatial

1	Г	ام ما	lded	£: ~.	
	-rn	nea	men	пог	IFPS

Present the EMBEDDED FIGURES and say: "Name all of the objects you see on this drawing."

 Encourage the subject to identify as many objects as possible by saying: "Very good, do you see any other objects?"

Objects	Check
Hammer	□ <i>(1)</i>
Saw	□ <i>(1)</i>
Drill	□ <i>(1)</i>
Screwdriver	□ <i>(1)</i>
Toolbox	□ <i>(1)</i>
Embedded figures score	/5

2. Visuospatial rotation

Α.	Go to VISUOSPATIAL ROTATION (BICYCLE). The picture must be on the upper page and the four choices on the	e lower
	page. Then say: "Picture yourself on the bicycle (point to the person on the bicycle). Which of these images (point to the person on the bicycle).	ooint to
	the choice below) best corresponds to what you would see in front of you?"	

Response: _____ (B = 2 points)

В.	Go to VISUOSPATIAL ROTATION (FARMER) and say: "If you were where the farmer is (point to the farmer), v	which of
	these images (point to the choice below) best corresponds to what you would see in front of you?"	

Response: _____ (C = 2 points)

Visuospatial rotation score: /4

3. Visuospatial construction

Present the VISUOSPATIAL CONSTRUCTION (arrow towards the examiner) and give page 13 (Participant's handout) to the subject. Then say: "Copy this figure so that your drawing is similar to mine."

• Do not allow the subject to turn the figure around.

Identical or 1 error	2 errors	≥3 errors
□ <i>(2)</i>	□ <i>(1)</i>	□ <i>(0)</i>

Visuospatial construction score: /2

4. Letter detection

Go to LETTER DETECTION. Hold the page 30 cm away from the participant and then say: "Tell me all the letters you can see on this picture and point to them. If you see a letter more than once, you do not have to repeat it."

- Encourage the subject to identify as many letters as possible by saying: "Very good, do you see any other letter?"
- Give the point only for correct letter (H, E or F).

Letters	Score (0 or 1)
Н	/1
Ε	/1
F	/1
Letter detection score	/3

Index 3: Executive Functions

1. Backward digit span

"I am going to read you some numbers, but this time, I would like you to repeat them backwards. For example, if I say 1-6, you would say...?"

- If their response is correct, move on to item 1, otherwise repeat the instructions with two other numbers.
- Read the numbers at a pace of one per second.
- Stop the test after the first error.

Item	Series	Response	Score (0 or 1)
1	2-9-7	(7-9-2)	/1
2	6-1-2-8	(8-2-1-6)	/1
3	4-1-5-9-7	(7-9-5-1-4)	/1
Backward digit span score			/3

2. Months backward

"Name the months of the year backwards, beginning with December."

December - November - October - September - August - July - June - May - April - March - February - January

Months backward score (Exact answer = 1 point; \geq 1 error = 0): /1

3. Alternating sequence

Point to the Alternating sequence on page 14 (Participant's handout) and say: "Copy the drawing so that it is similar to mine."

• Ensure that the drawing is reproduced in the space below the model.

Alternating sequence score (Identical copy = 1 point; \geq 1 error = 0): _____/1

4. Abstraction

Read the items A-C below to the subject and ask what the words have in common. An abstract response is worth 1 point, a more concrete response is worth 0.5 points, and an incorrect response is worth 0 point.

- For any response that is not worth 1 point (less abstract), but judged adequate, give 0.5 points.
- When a subject provides a response worth 0.5 points, ask: "Could you tell me more?"
- A. "In what way are an airplane and a boat similar?"
- B. "Painting and cinema?"
- C. "Earthquakes and hurricanes?"

Abst	Abstractions	
A. Means of transportation (1 point) Motor, go fast, etc. (0.5 points)		/1
В.	Arts (1 point) Leisure activities, images, etc. (0.5 points)	/1
с.	Natural catastrophes, natural disasters, Act of God (1 point) Cataclysms, etc. (0.5 points)	/1
	Abstraction score	/3

5. Verbal fluency

"I would like you to name as many words as you know in a minute, beginning with a certain letter. For example, with the letter B, you could say Banana, Boat, etc. Do not say proper names (like Boston or Betty, etc.), nor the same word with a different ending like Bet, Betting, Bets. Ready? Name as many words as you know in a minute that begin with the letter A. Go!"

- Start the stopwatch after saying "Go" and stop the subject after 60 seconds.
- If the subject does not say a word over the course of 5 seconds, encourage them by saying: "Don't give up, any word that begins with the letter A!"

Time	0-15 sec	15-30 sec	30-45 sec	45-60 sec
А				
# of words produced				
Rule errors				
Perseverations				
TOTAL	(Number of words produced - (Ru	lle errors + Perseverations) =	words	
		Wor	d fluency score (≥ 12 word	s = 1 point): /1

6. Modified Stroop

- A. Present the MODIFIED STROOP (COLOR) and say: "Tell me the colors of the dots as quickly as you can. Begin here (point) and go across the rows from left to right. We will begin with the example line. Ready? Go!"
 - If there is an error, two other trials can be proposed. If errors are made during the third try, the task begins regardlessly
- B. Present the MODIFIED STROOP (WORD READING) and say: "Read the words as quickly as you can. Begin here (point), and go across the rows from left to right. We will begin with the example line. Ready? Go!"
 - Apply the same instructions as for A.
- C. Present the MODIFIED STROOP (INTERFERENCE) and say: "This time, name the colors in which the words are printed, a quickly as you can. We will begin with the example line. Ready? Go!"
 - Clarify if necessary: "Don't read the word, tell me the color in which the word is printed, the color of the ink."
 - This test is timed. Start the stopwatch once "Go" has been said and stop the subject after 15 seconds.
 - An error that the subject immediately corrects counts for a correct response.
 - Record the number of correct responses given within 15 seconds.

Answers:

		-	-
Blue (y)	Green (r)	Yellow (g)	Red (b)
Green (b)	Blue (y)	Yellow (r)	Red (g)
Yellow (g)	Red (b)	Green (y)	Blue (r)
Blue (g)	Green (r)	Yellow (b)	Red (y)
Blue (r)	Yellow (a)	Red (v)	Green (b)

Score (Number of correct responses within 15 seconds):/16		
	Stroop score (≥ 11 = 1 point):	/1

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Index 4: Language

1. Storytelling

Go to STORYTELLING AND NAMING and say: "Look at this image and tell me a story about it."

• Encourage (as needed) a description of the scene using as much details as possible with questions such as: "Is there anything else?" or "Very good, continue."

Dysphasias	Comments (frequency, severity)
1. Speech apraxia (slowed rate, dysprosody, distortions)	
2. Word finding difficulties	
3. Grammatical construction difficulties	
4. Clarity or coherence problems	
5. Lexical paraphasias	
6. Semantic paraphasias	
Storytelling score	/1

2. Naming and writing

On the same page, point to the first item and say: "What is this called?"

- When the word is named correctly, say: "Very good, could you write it here for me?" Use the participant's handout (page 14).
- If the word was not named correctly, provide a semantic clue (ex. "It's in the sky"). If the response is incorrect, provide the phonological clue (underlined). If incorrect, ask the participant to write the word that you provide.

	Items	Without clue	With semantic clue	With phonological clue
•	1. <u>Su</u> n (it is in the sky)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
vords	2. <u>Dr</u> ess (what she is wearing)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
Regular words	3. <u>Tr</u> ee (it is alive)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
Regi	4. <u>Wa</u> ter (it is wet)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
	5. <u>Whe</u> el (it is used to roll)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
	6. Window (we see through it)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
Irregular words	7. <u>An</u> tenna (it is used to capture airwaves)	□ <i>(0.5)</i>	□ <i>(0.5)</i>	
gular	8. <u>Bu</u> tterfly (it flies)	□ <i>(0.5)</i>	□ (0.5)	
Irreg	9. <u>Ya</u> cht (to go on water) — Boat is an acceptable answer, but ask to write "Yacht".	□ (0.5)	□ <i>(0.5)</i>	
	10. <u>Fo</u> rk (it is a utensil)	□ (0.5)	□ <i>(0.5)</i>	
	Naming score (Without clue + With semantic clue)		/5	

Items written correctly
□ (0.5)
□ (0.5)
□ (0.5)
□ (0.5)
□ (0.5)
□ (0.5)
□ <i>(0.5)</i>
□ (0.5)
□ (0.5)
□ (0.5)
Writing score /5

3. Sentence writing

Go to SENTENCE WRITING then give the Participant's handout (page 14) and say: "Write a short story for me, two or three sentences long, based on this scene. When you are finished, I would like you to read it out loud."

Dysphasias	Absent	Mild	Significant
1. Grammatical construction difficulties	□ (1)	□ <i>(0.5)</i>	□ <i>(0)</i>
2. Paragraphias	□ <i>(</i> 1)	□ <i>(0.5)</i>	□ <i>(0)</i>
3. Clarity or coherence problems	□ (1)	□ <i>(0.5)</i>	□ <i>(0)</i>
Sentence writing score		/3	

4.	Comprehension	
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For this section, do not provide any clues about the image and do not point in its direction.	Write down the letter of the
picture that was chosen.	

pict	ture that was chosen.		
A		•	mage showing a boy who just hit a ball."
	Response:	(A = 1 point)	
В.		and say: "Point to the im (B = 1 point)	nage showing a doctor who just announced some good news."
C.	Present the AIRPLANE CARE the bad weather."	o and say: "Point to the i	mage showing an airplane that is waiting to take off because of
	Response:	(C = 1 point)	
			Comprehension score (A+B+C):
5. Se	mantic		
	this section, do not provide of ture that was chosen.	any clues about the image	e and do not point in its direction. Write down the letter of the
Α.	. Present the PLANET CARD	and say: "Point to a plan	et."
		(B = 1 point)	
В.	Present the TRANSPORTATI	ION CARD and say: "Point	to a means of transportation."
	Response:	(C = 1 point)	
C.	Present the ATHLETE CARD	and say: "Point to the at	:hlete."
	Response:	(D = 1 point)	
D.	. Present the ARCHEOLOGIST	Γ CARD and say: "Point to	the archeologist".
		(A = 1 point)	-
E.	Present the ESCORT CARD a	and say: "Point to the im a	age that means 'to escort' ".
	Response:	(D = 1 point)	

F.	"We will now repeat the exercise that we did earlier which required you to name the most words in a minute.
	This time, you will give me words that belong to a category, for example, all vegetables. Ready? Tell me all
	animals you know in a minute. "

• The major animal categories (birds, mammals, fish, etc.) are not acceptable.

Time	0-15 sec	15-30 sec	30-45 sec	45-60 sec
Animals				
# words produced				
Rule errors	Rule errors			
Perseverations				
TOTAL	(Number of words produced - ((Rule errors + Perseverations) =	words	
Semantic fluency score (≥ 18 words = 1 point):				

Semunic Score (A+B+C+D+E+F):	Semantic score	(A+B+C+D+E+F):		/
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6. Repetition

"I would like you to repeat after me some words and sentences."

• Only give points if the subject makes an impeccable full repetition.

Wo	Words/Sentences		
A.	Repeat the word "Car."	/1	
В.	Repeat, 3 times, the word "Articulatory."	/1	
C.	Repeat the sentence "The boy has a brown dog."	/1	
D.	Repeat the sentence "The helicopter approached the vessel to rescue the last survivors."	/1	
E.	Repeat the sentence "The zoo keeper wanted to find out who freed the hippopotamuses."	/1	

Repetition score:	/1
Repetition Store:	/3

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Index 5: Behavior

1. Social cognition

"I am going to read four stories and ask you questions about them. If you do not understand a situation, you can ask me to read the story again. I am going to read the first situation, listen carefully." Read each situation and the questions that follow to the participant. Answers may vary. An answer is considered inappropriate (0 point) or questionable (0,5 points) if it shows a lack of empathy, judgment or knowledge of social convention. Make sure the participant understands each situation well. If, after clarification, the participant still does not understand a situation, his answers should be considered inappropriate.

A. "A man who had been waiting in line for 5 minutes to buy ice cream was finally next in line. Suddenly the cashier announces 'Free ice cream!' Right away a young boy moves forward and screams 'Me! Me!'. The man also rushes to the ice cream to make sure he grabs it before the boy does!"

Questions	Appropriate	Questionable	Inappropriate
1. How do you think the man reacted and how does the boy feel?	□ (1)	□ <i>(0.5)</i>	□ <i>(0)</i>
2. What would you have done if you were that man?	□ <i>(1)</i>	□ <i>(0.5)</i>	□ <i>(0)</i>
Situation A		/2	

B. "A guest breaks a crystal vase during a dinner party. Immediately, she says: 'I am so sorry I broke the vase... that I had given you at your wedding!' The owner of the vase replies: 'Don't worry I never really liked it anyway!'."

Questions	Appropriate	Questionable	Inappropriate
1. Is the owner's reaction appropriate and how does the person who broke the vase feel?	□ (1)	□ (0.5)	□ (0)
2. If you were in the owner's shoes how would you have reacted?	□ <i>(1)</i>	□ <i>(0.5)</i>	□ <i>(0)</i>
Situation B		/2	

C. "A woman meets a mother with her baby at the store. When she sees the baby, she says: 'Oh look at the baby, too bad it's so ugly!'."

Questions	Appropriate	Questionable	Inappropriate
1. What do you make of the woman's reaction and how do you think the mother feels?	□ (1)	□ (0.5)	□ (0)
2. In the woman's shoes, what would you have said?	□ (1)	□ <i>(0.5)</i>	□ <i>(0)</i>
Situation C		/2	

D. "A man orders food in a restaurant. He notices that 2 buttons of the waitress's shirt are undone. He moves forward and starts buttoning them up himself!"

Questions	Appropriate	Questionable	Inappropriate
1. How do you interpret the man's behavior and how do you think the waitress feels?	□ (1)	□ (0.5)	□ <i>(0)</i>
2. If you were in the man's place, what would you have done?	□ <i>(1)</i>	□ <i>(0.5)</i>	□ <i>(0)</i>
Situation D		/2	

Cacial	cognition coor	(Situations A+B+C+D):	/0
Social	coanition score	? I SITIJATIONS A+K+C+IJI:	/X

This section has to be completed with the caregiver. Administer the questions below by saying: "Currently,..."

Questions

1. Does he seem sad or depressed? (cries easily, feels guilty, belittles himself, wants to die) or does he seem nervous, worried, anxious, preoccupied or stressed?	□ <i>(2)</i>
2. Does he believe that people are trying to hurt him, steal from him or plot against him ?	□ (2)
3. Does he have hallucinations? (sees things that aren't there, hears voices)	□ <i>(2)</i>
4. Have you noticed any changes in his sleep ? (dream enactment, REM sleep disorders)	□ (2)
5. Is he apathetic (lacks motivation, stopped doing the activities he likes without being bothered about it)?	□ (2)
6. Does he behave in an embarrassing or inappropriate way (improper behavior, childish, too jovial, hyperorality, changes in eating habits), has poor judgement (makes bad decisions, exaggerated spending)	□ (2)
7. Does he constantly do and repeat useless behaviors or actions? (has an incessant ritual, seem obsessed with something)	□ <i>(2)</i>
8. Does he lack empathy or sympathy towards others (feels the pain of others, interested and attentive to the needs of others)?	□ (2)
Caregiver questionnaire score	/16
	<u> </u>

Behavior score (Social cognition score + Caregiver questionnaire score): _____/24

Yes

No

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DÉPISTAGE COGNITIF DE QUÉBEC (DCQ)- PARTICIPANT'S HANDOUT Education: Age:

Date:

ID: Sex: Examiner: DB:

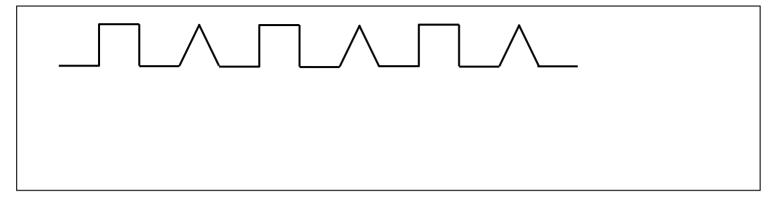
Index 2: Visuospatial

Last name:

3. Visuospatial construction

Index 3: Executive

3. Alternating sequence



Index 4: Language

2. Write the items named in the Naming section

Word 1: _____

Word 2: _____

Word 3: _____

Word 4: _____

Word 5: _____

Word 6: _____

Word 7: _____

Word 8: _____

Word 9: _____

Word 10: _____

3. Sentence writing

Last name:

Education: Age:

ID: Sex: Examiner: DB:

Summary

Index 1. Memory				
Sub-Index			Score	
1.	Recall	Immediate recall	/8	
1.	Kecaii	Delayed recall	/8	
2. Recognition			/8	
		Total Memory Index	/24	

Index 2. Visuospatial			
Sub-Index		Score	
1.	Embedded figures	/5	
2.	Visuospatial rotation	/4	
3.	Visuospatial construction	/2	
4.	Letter detection	/3	
	Total Visuospatial Index	/14	

Index 3. Executive Functions				
Sub-Index		Score		
1.	Backward digit span	/3		
2.	Months backward	/1		
3.	Alternating sequence	/1		
4.	Abstraction	/3		
5.	Verbal fluency (≥12)	/1		
6.	Stroop (≥11)	/1		
	Total Executive Functions Index	/10		

Index 4. Language			
Sub-Ind	Sub-Index		
1.	Storytelling	/1	
2.	Naming	/5	
۷.	Writing	/5	
3.	Sentence writing	/3	
4.	Comprehension	/3	
5.	Semantic	/6	
6.	Repetition	/5	
	Total Language Index	/28	

Date:

Index 5. Behavior					
Sub-Index		Score			
1.	Caregiver questionnaire	/16			
2.	Social cognition	/8			
	Total Behavior Index	/24			

/24
/14
/10
/28
/24
/100

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