Indianapolis Study of Health and Aging

Neuropsychological Battery

TEST ORDER:
1. Demographic Data Sheet
2. MMSE
3. Animal Fluency
4. Boston Naming Test
5. Word List Learning
6. Constructional Praxis4
7. Word List Recall and Recognition
8. Constructional Praxis4 Recall
9. Modified Tokens Test
10. GDS
11. Behavior Checklist

GENERAL INSTRUCTIONS:
1. Items in **"bold"** are to be read to the patient. Read the instructions as they are written.
2. Speak slowly and clearly. If the subject does not understand an instruction, repeat it unless the item specifically prohibits repetition.
3. Except where indicated, do not correct a wrong answer or provide the subject with the right answer. If the subject requests to know the correct answer to an item, reassure him/her and explain that you cannot do this.
4. Please write legibly and record any wrong answers in the spaces provided.
5. Administer all items. If a subject refuses an item or cannot do it, score the item as zero. If an entire test was not completed, indicate why at the end of the recording form.

MATERIALS REQUIRED:
1. Boston Naming Test Stimulus Booklet
2. Tokens Test Stimulus Sheet
3. Pencil
4. Wristwatch

Demographic Information

Exam Date: __ __ __   __ __, __2__ __0__ __ __
         (month) (day)   (year)

Name: __ __ __ __ __ __ __ __ __ __ __ __   __   __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __
       (First)   (M)   (Last)

SUBID: __ __ __ __

Gender: Male   Female

Birth date: __ __ __   __ __, __1__ __9__ __ __
         (month) (day)   (year)

Age: __ __

Education: __ __ (# yrs completed)

Primary Occupation: _

_ _

Handedness :   Right   Left   Mixed

Exam Location: Clinic   Subject's Home   Nursing Home   Other: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Start Time: __ __ : __ __

Finish Time: __ __ : __ __

Elapsed Time: __ __ : __ __

Examiner Initials: __ __ __

"Now I would like to ask you some questions to check your memory and concentration. Some of them will be easy and some of them will be hard." (<u>Read items exactly as they are written</u>)

Question	Subject Response	Score correct	error
1. **"What is the year?"**	_____	1	0
2. **"What is the season of the year?"**	_____	1	0
	(Mar = W/Sp; Jun = Sp/Su; Sep = Su/F; Dec = F/W)		
3. **"What is the month"**	_____	1	0
4. **"What is the date (day of month)?"**	_____	1	0
5. **"What is the day of the week?"**	_____	1	0
6. **"What state are we in?"**	_____	1	0
7. **"What county are we in?"**	_____	1	0
8. **"What city are we in?"**	_____	1	0
9. **"What floor of the building are we on?"**	_____	1	0
10. **"What is the name of this place?" or if at home "What is your address?"**	_____	1	0

11. **"I am going to name 3 objects. After I have said them, I want you to repeat them. Remember what they are because I am going to ask you to name them again in a few minutes. Please repeat these names for me:**

		correct	error
Trial 1	**"apple"**	1	0
	"table"	1	0
	"penny"	1	0

If Trial 1 is perfect (3/3 objects recalled), skip to item #12. If it is not perfect (2/3, 1/3, or 0/3 objects recalled) say **"That's not quite right, please repeat these names for me: "**

Trial 2			
apple	+	-	
table	+	-	
penny	+	-	

If Trial 2 is not perfect, say **"That's not quite right, please repeat these names for me: "**

Trial 3			
apple	+	-	
table	+	-	
penny	+	-	

12. **"Now I want you to say the days of the week, from Monday to Friday."** (Repeat if needed; assist as needed).

Days Forward on first attempt: + - (circle one but do not add to score)

"Now I want you to say the days of the week backwards, in reverse order, start with Friday and go backwards." (No further assistance. Score is number correct before first error. Record subject's responses)

___ ___ ___ ___ ___

| Fri | Thur | Wed | Tue | Mon | | 5 | 4 | 3 | 2 | 1 | 0 |

Question	Subject Response	Score	

13. **What were the 3 objects I asked you to remember?"** (apple)   **1**   **0**

     (DO NOT say the object names to the subject)   (table)   **1**   **0**

                                                      (penny)   **1**   **0**

14. **"What is this called?"** (show wristwatch)   _____   **1**   **0**

15. **"What is this called?"** (show pencil)   _____   **1**   **0**

16. **"I would like you to repeat a phrase after me: NO IFS, ANDS, OR BUTS."**
(<u>Do not repeat.</u> Allow only one trial. Must be perfect to receive credit.)   **1**   **0**

17. **"Read the words on this page, then do what it says."** (Code as correct only if
subject closes eyes. Verbal response is not what is scored. If the subject reads it
only, tell him/her to "do what it says" and score the response.)   **1**   **0**

18. **"I am going to give you a piece of paper. When I do, take the paper in your
right hand, fold the paper in half with both hands, and put the paper down on
your lap."** (Hand the paper midline. <u>Do not repeat or coach</u>.)

                (right hand)   _____   **1**   **0**

                (fold in half)   _____   **1**   **0**

                (in lap)   _____   **1**   **0**

19. **"Write any complete sentence on this piece of paper."** (Spelling and grammar
are not important. Must have a subject, real or implied, and a verb.)   **1**   **0**

20. **"Here is a drawing. Please make a copy of it in this area."** (Score as
correct if two five-sided figures overlap to form a four-sided figure.)   **1**   **0**

Total MMSE Score: ___ ___/30

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99. **"Now I am going to give you a word and ask you to spell it forwards and backwards. The word is
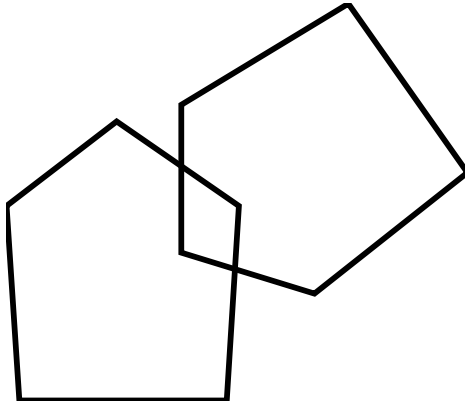WORLD. First spell it forwards."** (Repeat if needed; help spell it forward if needed).

         WORLD Forward on first attempt: + - (circle one but do not add to score)

"Now spell it backwards." (No further assistance. Subtract one point for each error, e.g., omission,
transposition, insertion. Record subjects responses)

___   ___   ___   ___   ___

 D   L   R   O   W   **5   4   3   2   1   0**

CLOSE YOUR EYES

Animal Fluency

"I am going to give you a category and I want you to name, as fast as you can, all of the things that belong in that category. For example, if I say 'Articles of Clothing', you could say shirt, tie, or hat. Can you think of other articles of clothing?" After you are satisfied that the subject understands the task and has given 2 words naming articles of clothing, say ...

"That's fine. I want you to name all of the things that belong to another category. That is 'Animals'. Any type of animal is OK: farm animals, birds, fish, any kind of animal will do. You will have one minute. Ready, go." Record answers in appropriate 15 second intervals. If the subject says he/she is done before time is up, encourage the subject to continue responding by saying. **"Keep trying to tell me as many animals as you can."**

Time Intervals

0-15 sec	16-30 sec	31-45 sec	46-60 sec
1. _____	1. _____	1. _____	1. _____
2 _____	2. _____	2. _____	2. _____
3. _____	3. _____	3. _____	3. _____
4. _____	4. _____	4. _____	4. _____
5. _____	5. _____	5. _____	5. _____
6. _____	6. _____	6. _____	6. _____
7. _____	7. _____	7. _____	7. _____
8. _____	8. _____	8. _____	8. _____
9. _____	9. _____	9. _____	9. _____
10. _____	10. _____	10. _____	10. _____
11. _____	11. _____	11. _____	11. _____
12. _____	12. _____	12. _____	12. _____
13. _____	13. _____	13. _____	13. _____
14. _____	14. _____	14. _____	14. _____
15. _____	15. _____	15. _____	15. _____

total __ __   total __ __   total __ __   total __ __

Grand Total ___ ___

Scoring Notes:
1. Do not give additional credit for repeated words or obvious redundancies (e.g., black dog, brown dog).
2. A species and any accompanying breeds within a species each get credit (e.g., dog, terrier, poodle).
3. Separate names for male and female of a species each get credit (e.g., bull and cow).
4. Anything not vegetable or mineral is animal.

"Now I am going to show you some pictures and I want you to say the name of each picture."

Record all incorrect responses verbatim. Maximum exposure per picture is 10 seconds. If the subject responds with an over-inclusive response (e.g., "boat" for canoe), use the neutral prompt: **"Is there another name for that?"** Overly specific answers or subcategory answers (e.g., "daisy" for flower) are generally scored as correct. No other help should be given. If the patient gives more than one response, ask them which they prefer and score that one. Descriptions are scored as incorrect. If the patient cannot think of the name of the object, the item is scored as incorrect.

Item		correct	error
1. Tree	_____	1	0
2. Bed	_____	1	0
3. Whistle	_____	1	0
4. Flower	_____	1	0
5. House (school house)	_____	1	0
6. Canoe	_____	1	0
7. Toothbrush	_____	1	0
8. Volcano	_____	1	0
9. Mask (false face)	_____	1	0
10. Camel	_____	1	0
11. Harmonica (m. organ; French harp)	_____	1	0
12. Tongs	_____	1	0
13. Hammock (swing)	_____	1	0
14. Funnel	_____	1	0
15. Dominoes	_____	1	0

Grand Total ___ ___/15

Word List Learning

"I am going read a list of 10 words. Listen closely. When I am finished, I will ask you to tell me all ten words". Read the words at the rate of one every 2 seconds. Record the serial position of each word recalled. After Trials 1 and 2 say: **"We are going to try that again. Listen closely as I read each word. Later I will ask you to recall all 10 words".**

Trial 1

1. Butter   ____
2. Arm   ____
3. Shore   ____
4. Letter   ____
5. Queen   ____
6. Cabin   ____
7. Pole   ____
8. Ticket   ____
9. Grass   ____
10. Engine   ____

Trial 2

1. Ticket   ____
2. Cabin   ____
3. Butter   ____
4. Shore   ____
5. Engine   ____
6. Arm   ____
7. Queen   ____
8. Letter   ____
9. Pole   ____
10. Grass   ____

Trial 3

1. Queen   ____
2. Grass   ____
3. Arm   ____
4. Cabin   ____
5. Pole   ____
6. Shore   ____
7. Butter   ____
8. Engine   ____
9. Ticket   ____
10. Letter   ____

 # Correct
by Trial: __ __/10   __ __/10   __ __/10

Grand Total   ___ ___/30

Record Intrusions Here:

 # Intrusions
by Trial: __ __   __ __   __ __

Grand Total   ___ ___

"Now I would like you to draw this picture as best you can down here in this space. (Point to area below figure). **"Make sure you include everything you see in your copy."** Allow approximately 60 sec. per design.

	correct	error
1. Circle (examiner say "circle")		
a. closed circle (gap less than 5 mm)	1	0
b. circular shape (longest diam/shortest diam <= 1.5)	1	0

subtotal _____

	correct	error
2. Diamond (examiner say "diamond")		
a. draws four sides (3 sides = 0; 5 sides = 0)	1	0
b. closes all 4 angles of figure (gap less than 5 mm)	1	0
c. sides of approx. equal length (longest side/shortest side <= 1.5)	1	0

subtotal _____

	correct	error
3. Overlapping Rectangles (examiner gives <u>no</u> verbal cue)		
a. figures are four-sided	1	0
b. overlap resembles original	1	0

subtotal _____

	correct	error
4. Cube (examiner gives <u>no</u> verbal cue)		
a. figure is 3-dimensional (can exist and has volume)	1	0
b. frontal face is correctly oriented	1	0
c. internal lines are drawn correctly (all lines must be present)	1	0
d. opposite sides are parallel (within 10 degrees, all lines present)	1	0

subtotal _____

Grand Total   ___ ___/11
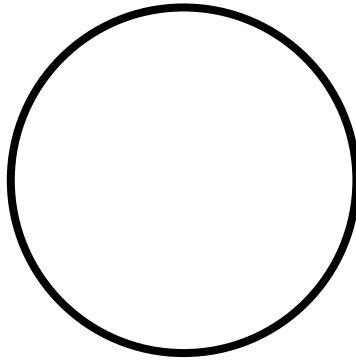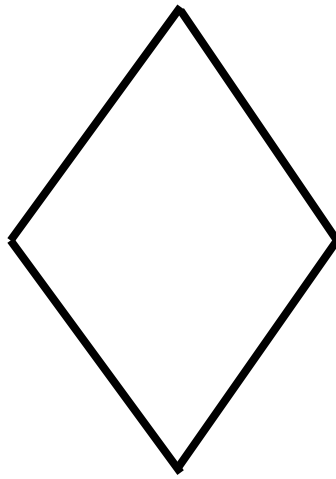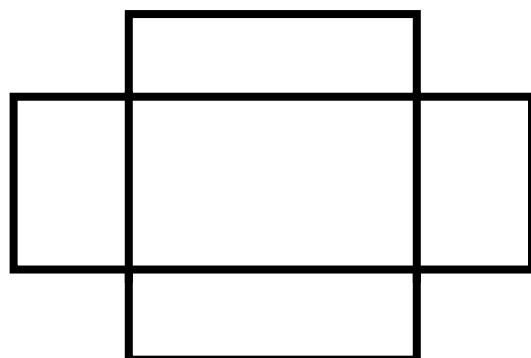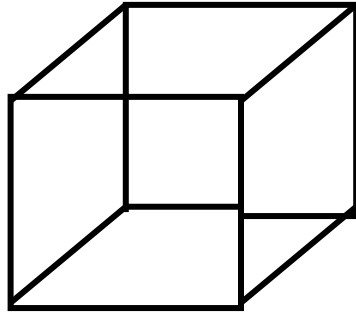
Delayed Recall of Word List

"A few minutes ago, I read you a list of 10 words several times. Now I want you to recall as many of those words as you can." Record serial position of each word recalled. Allow 90 seconds. Record intrusions in the space to the right of the list. <u>DO NOT READ THE WORDS TO THE SUBJECT.</u>

1. Butter   ____
2. Arm   ____
3. Shore   ____
4. Letter   ____
5. Queen   ____
6. Cabin   ____
7. Pole   ____
8. Ticket   ____
9. Grass   ____
10. Engine   ____

Total Correct: ___ ___/10	**Total Intrusions** ___ ___

Word List Recognition

"Now I am going to help you out a little. I am going to read another list of words. Some of the words are from the list I read to you earlier and some of the words are new. Say yes if the word is one I read to you before, no if it is not." (Circle subject's response, yes or no.)

	Word	**Response**		**Word**	**Response**
1.	church	yes/**NO**	11.	QUEEN	**YES**/no
2.	coffee	yes/**NO**	12.	CABIN	**YES**/no
3.	BUTTER	**YES**/no	13.	slipper	yes/**NO**
4.	dollar	yes/**NO**	14.	POLE	**YES**/no
5.	ARM	**YES**/no	15.	village	yes/**NO**
6.	SHORE	**YES**/no	16.	string	yes/**NO**
7.	five	yes/**NO**	17.	TICKET	**YES**/no
8.	LETTER	**YES**/no	18.	troops	yes/**NO**
9.	hotel	yes/**NO**	19.	GRASS	**YES**/no
10.	mountain	yes/**NO**	20.	ENGINE	**YES**/no

Total Correct **YES**: ___ ___/10
Total Correct **NO**: ___ ___/10

"A while ago I showed you some drawings on separate pieces of paper. You looked at each drawing and then drew it on the same sheet of paper. Do you remember them? I would like for you to draw them on this sheet, this time from memory." Allow approximately 3 minutes. Give no further assistance and no hints as to the figures.

	correct	error
1. Circle		
a. closed circle (gap less than 5 mm)	1	0
b. circular shape (longest diam/shortest diam <= 1.5)	1	0

subtotal _____

2. Diamond		
a. draws four sides (3 sides = 0; 5 sides = 0)	1	0
b. closes all 4 angles of figure (gap less than 5 mm)	1	0
c. sides of approx. equal length (longest side/shortest side <= 1.5)	1	0

subtotal _____

3. Overlapping Rectangles		
a. figures are four-sided	1	0
b. overlap resembles original	1	0

subtotal _____

4. Cube		
a. figure is 3-dimensional (can exist and has volume)	1	0
b. frontal face is correctly oriented	1	0
c. internal lines are drawn correctly (all lines must be present)	1	0
d. opposite sides are parallel (within 10 degrees, all lines present)	1	0

subtotal _____

5. Overlapping Pentagons from MMSE		
a. two 5-sided figures	1	0
b. overlap	1	0
c. intersection forms a 4-sided figure	1	0

subtotal _____

Grand Total   ___ ___/14

Modified Token Test

Place the Token sheet on the table so that the small squares in the 16 figure array are closest to the subject. Say, **"As you see, there are several figures of different sizes, shapes, and colors; large and small** (examiner points) **-- circles and squares** (examiner points) **-- red, black, yellow, and green** (examiner points). **I will ask you to do different things on this test. Please listen carefully and try to carry out the actions exactly as I say them. Don't start until after I have finished stating each instruction."**

Begin with item #1. If the subject fails to respond after 5 seconds or if the response is incorrect, say **"Let's try that again"** and repeat the instructions. If the patient again fails to respond or responds incorrectly, proceed to the next item. Give no additional aid. If the subject asks for a repetition or complains that he or she has forgotten part of the command, instruct the subject to do as much as can be remembered. Follow this procedure with all test items. If the subject asks what he or she should point with, say **"Your finger."**

Score 2 points for correct responses on the first trial. 1 point for success on a second trial, and zero (0) points for failure on a second trial. Minimum score = 0, maximum score = 24.

	Score (circle one)
1. **"Point to a square."**	2 1 0
2. **"Point to a yellow circle."**	2 1 0
3. **"Point to the large black square."**	2 1 0
4. **"Point to the large red circle."**	2 1 0
5. **"Point to the small green circle and the small black circle."**	2 1 0
6. **"Point to the small yellow circle and the large red square."**	2 1 0

Turn the Token sheet over so that the squares in the eight figure array are closest to the subject.

7. **"Point to the black circle and the green square."**	2 1 0
8. **"Point to the yellow square or the red circle."**	2 1 0
9. **"Touch all the squares except the green one."**	2 1 0
10. **"Point to the green circle, the black square, and the yellow circle."**	2 1 0
11. **"Touch the black circle after touching the red square."**	2 1 0
12. **"Before pointing to the yellow square, point to the green circle."**	2 1 0

Grand Total _____ /24

GDS

Choose the best answer for 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 hopeful about the future?.. yes / **NO** .
6. Are you bothered by thoughts you can't get out of your head? ...... **YES** / no
7. Are you in good spirits most of the time?....................................... yes / **NO** .
8. Are you afraid that something bad is going to happen to you? ...... **YES** / no
9. Do you feel happy most of the time? .... yes / **NO** .
10. Do you often feel helpless? .... **YES** / no
11. Do you often get restless and fidgety? .... **YES** / no
12. Do you prefer to stay home, rather than going out and doing
     new things? .... **YES** / no
13. Do you frequently worry about the future?..................................... **YES** / no
14. Do you feel you have more problems with memory than most?.... **YES** / no
15. Do you think it is wonderful to be alive now?............................... yes / **NO** .
16. Do you often feel downhearted and blue?...................................... **YES** / no
17. Do you feel pretty worthless the way you are now? .... **YES** / no
18. Do you worry a lot about the past? .... **YES** / no
19. Do you find life very exciting? .... yes / **NO** .
20. Is it hard for you to get started on new projects?........................... **YES** / no
21. Do you feel full of energy?.. yes / **NO** .
22. Do you feel that your situation is hopeless?................................... **YES** / no
23. Do you think that most people are better off than you are?........... **YES** / no
24. Do you frequently get upset over little things? .... **YES** / no
25. Do you frequently feel like crying?.. **YES** / no
26. Do you have trouble concentrating? .... **YES** / no
27. Do you enjoy getting up in the morning?....................................... yes / **NO** .
28. Do you prefer to avoid social gatherings?...................................... **YES** / no
29. Is it easy for you to make decisions? .... yes / **NO** .
30. Is your mind as clear as it used to be?... yes / **NO** .

Total score is number of items in which the response in **BOLD CAPITAL** letters is circled: ___ ___

Revised Clark-Welsh Behaviors and Attitude Checklist

These are behavioral ratings on the subject during the session. Please rate the subject's overall behavior on each dimension. Scales are dichotomously anchored. The midpoint (4) represents <u>normal behavior</u>. The continuum end points represent behavioral extremes.

Level of Arousal
    1. Sleepy   1 2 3 4 5 6 7   Hypervigilant
    2. Needs stimulation to stay awake   1 2 3 4 5 6 7   Actively hallucinating

Attention and Concentration
    3. Attentive   1 2 3 4 5 6 7   Distractible

Visuomotor function
    4. Fast to initiate movement   1 2 3 4 5 6 7   Slow to initiate movement
    5. Skilled movements   1 2 3 4 5 6 7   Awkward movements

Language
    6. Excessive   1 2 3 4 5 6 7   Sparse
    7. Direct   1 2 3 4 5 6 7   Vague
    8. Converses spontaneously   1 2 3 4 5 6 7   Converses only when spoken to
    9. Speech garbled or mumbled   1 2 3 4 5 6 7   Crisp enunciation

Reaction to test items
    10. Understands directions   1 2 3 4 5 6 7   Confused with directions
    11. Tracks throughout task   1 2 3 4 5 6 7   Forgets task requires help
    12. Easy   1 2 3 4 5 6 7   Effortful

Work Habits
    13. Fast   1 2 3 4 5 6 7   Slow
    14. Precise   1 2 3 4 5 6 7   Careless
    15. Persistent   1 2 3 4 5 6 7   Abandons

Affective expression
    16. Euphoric   1 2 3 4 5 6 7   Dysphoric

Attitude toward examiner
    17. Hostile   1 2 3 4 5 6 7   Friendly

Attitude toward testing situation
    18. Relaxed   1 2 3 4 5 6 7   Tense/Agitated
    19. Tries hard   1 2 3 4 5 6 7   Tries little

Attitude toward self
    20. Confident   1 2 3 4 5 6 7   Insecure

Please check if you learn of or observe any of the following:

__ Neglect	__ Left Hemiparesis	__ Right Hemiparesis
__ Aphasia	__ Uncooperativeness	__ Arthritis
__ Anxiety	__ Catastrophic reaction	__ Paranoia
__ Visual Problems	__ Visual Neglect	__ Hallucination
__ Auditory Problems	__ Blunted Affect	__ Tremor

Overall judgment of validity of test results:

Good   2

Borderline   1   (if borderline indicate reason below)

Invalid   0   (if invalid indicate reason below)

Summary of Test Administration:

		Test Not Given Due To			
Test	Given	Handicap	Refusal	Confusion	Other
1. MMSE	1	2	3	4	5
2. Animal Naming	1	2	3	4	5
3. Boston Naming Test	1	2	3	4	5
4. Word List Learning	1	2	3	4	5
5. Constructional Praxis4	1	2	3	4	5
6. Word List Recall and Recog.	1	2	3	4	5
7. Constructional Praxis4 Delay	1	2	3	4	5
8. Modified Tokens Test	1	2	3	4	5
9. GDS	1	2	3	4	5

Additional observations: