

Supplementary Material

Now is the Time to Improve Cognitive Screening and Assessment for Clinical and Research Advancement

Brief Neurocognitive Assessment - <http://www.medafile.com/AFA/BNS.htm>

Orientation to Person:

1. What is your last name?
2. What is your first name?
3. What is your birthday?
4. What is your birth year?

Recollection of personal information:

6. In what county/city were you born?
7. In what state (country if not US) were you born?
8. What is your mother's maiden name?
9. How far did you go in school (years of education)?
10. What is your address (or phone number)?

Orientation to place:

11. What is the name of this clinic (place)?
12. What floor are we on?
13. What city are we in?
14. What county are we in?
15. What state are we in?

Orientation to time/date:

16. What is today's date? (exact only)
17. What is the month?
18. What is the year?
19. What day of the week is today?
20. What season is it?

Recollection of historical information (PRESIDENTS)

21. Who is the President of the US?
22. Who was the President before him?
23. Who was the President before him?
24. Who was the first President of the US?
25. Name another US President?

REPEATING 5 WORDS:

Get the participant's attention, then say: "I am going to say five words that I want you to remember now and later. The words are:

SHIRT SPOON CHAIR LAMP HOUSE

Please say them for me now"

(Give the participant 3 tries to repeat the words. If unable after 3 tries, go to next item.)

26. "SHIRT"

27. "SPOON"

28. "CHAIR"

29. "LAMP"

30. "HOUSE"

35. – 45. CATEGORY FLUENCY

SAY: In one minute, tell me as many animals as you can think of, Ready, GO"

To score, divide total by 2, maximum score = 10

Recalling the 5 words:

SAY: "What were the five words I asked you to remember?"

46. "SHIRT"

47. "SPOON"

48. "CHAIR"

49. "LAMP"

50. "HOUSE" REPEATING 5 WORDS:

RESULTS:

- 0 - 5 normal, depending on age, education, complaints
- 6 - 10 possible impairment
- 11 - 20 mild impairment
- 21 - 30 moderate impairment
- 31 - 40 severe impairment
- 41 - 50 profound/complete impairment

Note that this is a continuum of approximate descriptions, not a rigid classification.

Based on the Brief Alzheimer Screen (BAS)

Developed by Marta Mendiondo, Ph.D., Wes Ashford, M.D., Ph.D., Richard Kryscio, Ph.D., Frederick A. Schmitt, Ph.D., J Alzheimers Dis. 2003 Dec 5:391-398.

Diagnostic and Statistical Manual, 5th revision (DSM5)

Inventory for Neurocognitive Impairment and Global Assessment of Severity

<http://www.medafile.com/AFA/DSM5-NCI.htm>

I) Learning and memory

A) Recent memory

0 = Memory for daily events unquestioned.

1 = Occasional failures to recall recent events, placement of keys, no effect on daily function.

2 = Increase of failures to recall recent events, loses keys, defect interferes with daily activities.

3 = New material lost after distraction.

4 = No capacity to retain new information.

5 = No capacity to obtain information.

B) Remote memory

0 = Clarity with considerable details in recollection of events from childhood, early adulthood.

1 = Memory for significant events of the past, but some uncertainty and lack of details.

2 = Clear deficits in memory of personal history, some difficulty recalling names of familiar friends, relatives. Recalls place of birth, names of schools, occupation, major past events.

3 = Unable to recall any significant historical events or places of schooling. May occasionally forget name of spouse or most frequent caregiver.

4 = Difficulties with awareness of environment, sometimes able to distinguish familiar persons from unfamiliar persons, knows own name.

5 = No comprehension of the nature of surroundings.

C) Orientation

0 = Fully oriented.

1 = Some difficulty with time relationships, date not known, difficulty with year. May have problems with getting lost.

2 = Usually disoriented in time, often disoriented to place.

3 = Orientation to person only.

4 = Body disorientation.

5 = Totally lost, oblivious to posture.

II) Complex Attention

0 = Can sustain attention for normal amount of time. Can divide attention without distraction.

1 = Has mild lapses of attention, misses some details, not impairing daily function.

2 = Has frequent distraction of attention, difficulty staying of subject, focusing on a task.

3 = Attention impaired in daily activities; processing speed clearly slowed.

4 = Poor attention to any specific activity without constant external input. Can be engaged only sporadically and briefly.

5 = Unable to attend to any task or issue. No attention to surroundings or environmental events.

III) Executive Function, planning, decision-making, inhibition

A) Judgement, problem solving, abstract thinking

0 = Solves everyday problems well: judgment good in relation to past performance.

- 1 = Mild difficulty in handling complex problems, similarities, differences, social judgment usually maintained.
- 2 = Moderately impaired in handling problems; social judgment usually impaired.
- 3 = Unable to make judgments, decisions, or solve problems.
- 4 = Unable to carry a thought long enough to determine a purposeful course of action.
- 5 = No response to any confronted problem.

IV) Language function, aphasia (dominant hemisphere)

- 0 = Conversational, no searching for words.
- 1 = Reticent conversation, searches for synonyms, word/name finding difficulties evident.
- 2 = Vocabulary limitations noted in conversation, difficulty in naming objects.
- 3 = Conversation limited to use of simple words and sentences. Can name simple objects but not uncommon objects.
- 4 = Speech limited to single simple words, difficulty repeating single words, incomprehending.
- 5 = All verbal abilities lost, mute, unresponsive.

V) Perceptual-motor function

A) Visuospatial organization, agnosia (non-dominant hemisphere)

- 0 = No difficulty with three-dimensional perspectives; identifies the purpose of complex objects and can use them.
- 1 = Mild difficulty copying complex three-dimensional perspectives, has difficulty recalling the purpose of unusual objects.
- 2 = Considerable difficulty in reproducing simple drawings, can use simple objects only.
- 3 = Unable to use writing implement for copying a simple design, misidentifies objects.
- 4 = Can respond meaningfully only to some very familiar objects, e.g., may hold brush by handle, take pencil in hand, cannot full use these objects.
- 5 = Unresponsive to objects in the environment.

B) Home activities, motor coordination, praxis

- 0 = Life at home, hobbies, crafts, intellectual interests well maintained.
- 1 = Life at home, hobbies, intellectual interests only slightly impaired, trouble operating new appliances.
- 2 = Mild impairment of function at home; more complicated hobbies and interests abandoned.
- 3 = Only simple chores preserved, restricted interests poorly sustained, mild incoordination. Difficulty following instructions.
- 4 = No significant function in home outside of own room. Dyspractic.
- 5 = Poor mobility, difficulty ambulating. May require manipulation and assistance. Apractic. May develop contractures of limbs.

VI) Social Cognition

A) Community affairs, social function, and interactions with others

- 0 = Independent function at usual level in job, shopping, business, and financial affairs, volunteer, and social groups.
- 1 = Only doubtful or mild impairment, if any, in these activities.

2 = Unable to function independently at these activities though may still be engaged in some; may still appear normal to casual inspection.

3 = No pretense of independent function outside of home.

4 = Impaired interactions with other individuals, loss of proper social interactions.

5 = No interactions with other persons, frequent catastrophic reactions.

B) Personal care, habits, hygiene

0 = Fully capable of self-care, well-dressed and groomed by self.

1 = Mild impairment of self-grooming, may need occasional prompting, needs some help in meeting nutritional needs.

2 = Needs occasional prompting for dressing and grooming, needs help with nutritional needs.

3 = Requires assistance in dressing, hygiene, keeping of personal effects. Able to feed self, but unable to prepare any of own food.

4 = Requires full assistance with personal care, dressing, difficulty feeding self, frequent incontinence, diapers may be used.

5 = Unable to dress self, difficulty with being fed, fully incontinent.

TOTAL DSM5 Global Assessment of Neurocognitive Impairment Severity: (range = 0 - 50)

0 - 5 normal, depending on age, education, complaints

6 - 10 possible cognitive impairment

11 - 20 mild cognitive impairment

21 - 30 moderate cognitive impairment

31 - 40 severe cognitive impairment

41 - 50 profound/complete cognitive impairment

Inventory of Activities of Daily Living (ADLs)

<http://www.medafile.com/AFA/ADLs-IB.htm>

Scoring guide:

0 = Normal

1 = mildly impaired but does by self or with minimal assistance

2, 3, 4 = requires minor or major assistance, may be fully dependent

(If never did activity, note and score according to related abilities)

1. Ability to use phone, television, internet, communication modalities

0 = Operates telephone on own initiative, looks up and dials numbers, finds desired TV shows, uses internet.

1 = Dials a few well known numbers, difficulty using TV-remote, trouble with internet use.

2 = Answers telephone but does not dial, watches TV passively, no internet use.

3 = Does not use telephone at all (could if necessary), watches TV, unable to discuss content.

4 = Incapable of using telephone, does not watch TV.

2. Shopping: clothes, household items, groceries

0 = Takes care of all shopping needs independently.

1 = Shops independently for small purchases.

2 = Needs to be accompanied on any shopping trip.

3 = Completely unable to shop.

3. Food (If never prepared meals, note and score according to related abilities)

0 = Plans, prepares, and serves adequate, balanced meals independently.

1 = Prepares adequate meals if supplied with ingredients.

2 = Heats and serves prepared meals or prepares meals.

3 = Needs to have meals prepared and served.

4. Housekeeping, cleaning, laundry, taking out garbage, litter

0 = Maintains house, appropriate involvement for keeping order, can do personal laundry, good level of cleanliness.

1 = Performs light daily tasks such as dish washing, bed making, laundering small items, rinsing socks.

2 = Performs light daily tasks but cannot do laundry, maintain acceptable level of cleanliness without assistance.

3 = Needs help with all home maintenance tasks.

4 = Is unable to participate in any housekeeping tasks.

5. Proper and safe use of old, new appliances in home

0 = Can heat water, cook food, turn off stove after use, use dishwasher, washing machine.

1 = Can use familiar appliances, difficulty with new things, can use on-off controls, heat simple items, e.g., use toaster.

2 = Cannot use appliances safely, turn off stove, use on-off controls.

6. Mode of Transportation, traveling out of neighborhood, driving, taking public transport

0 = Travels independently on public transportation or drives own car.

1 = Arranges own travel via taxi but does not otherwise use public transportation.

2 = Travels on public transportation when assisted or accompanied by another.

3 = Travel limited to taxi or automobile with assistance of another.

7. Remembering appointments, family activities, holidays, responsibility for own medication

0 = Makes and keeps appointments, arranges activities for family, vacation. Is responsible for taking medication dosages at correct time.

1 = Forgets scheduled appointments, participates less in activity planning. Takes medication if prepared in advance in separate dosages.

2 = Is not capable of making appointments, planning activities, dispensing own medication.

8. Ability to handle finances, write checks, pay bills, balance checkbook, assemble taxes

0 = Manages financial matters independently (budgets, writes checks, pays rent and bills, balances checkbook, does banking), keeps track of income, assembles tax records. Makes good financial decisions, buys appropriate gifts.

1 = Manages daily purchases, but needs help with major purchases, business affairs, taxes.

2 = Incapable of handling money.

Total Instrumental ADL Score (Max = 23)

9. Toilet, proper use of bathroom

0 = Cares for self at toilet completely, no incontinence. Cares for self at toilet, no incontinence.

1 = Needs to be reminded or needs help in cleaning self, may have rare accidents.

2 = Soiling or wetting while asleep more than once a week, usually continent.

3 = Soiling or wetting while awake more than once a week, frequently continent.

4 = No control of bowels or bladder, fully incontinent.

10. Feeding

0 = Eats without assistance at mealtime.

1 = Eats with minor assistance, needs help serving food, cleaning up after meals.

2 = Feeds self with moderate assistance and is untidy.

3 = Requires extensive assistance for all meals, may be fed by someone else.

4 = Does not feed self at all and resists efforts of others to feed him/her.

11. Dressing

0 = Dresses, undresses, and selects clothes from own wardrobe.

1 = Dresses and undresses self, with minor assistance.

2 = Needs moderate assistance in dressing or selection of clothes.

3 = Needs major assistance in dressing but cooperates with efforts of others to help.

4 = Completely unable to dress self and resists efforts of others to help.

12. Grooming (neatness, hair, nails, hands, face, clothing)

0 = Always neatly dressed, well-groomed, without assistance, cuts own fingernails.

1 = Grooms self adequately with occasional minor assistance, e.g., in shaving.

2 = Needs moderate and regular assistance, supervision in grooming, brushing, combing hair.

- 3 = Needs total grooming care but can remain well-groomed after help from others.
- 4 = Actively negates all efforts of others to maintain grooming.

13. Physical Ambulation

- 0 = Goes about grounds or city.
- 1 = Ambulates within residence or about one-block distance.
- 2 = Ambulates with assistance of another person, railing, cane, walker, or wheelchair.
- 3 = Sits unsupported in chair or wheelchair but cannot propel self without help.
- 4 = Bedridden more than half the time.

14. Bathing

- 0 = Bathes self (tub, shower, sponge bath) without help or reminding.
- 1 = Bathes self with help in getting in and out of tub. May need reminding.
- 2 = Washes face and hands only but cannot bathe rest of body.
- 3 = Does not wash self but is cooperative with those who bathe him or her.
- 4 = Does not try to wash self and resists efforts to keep him or her clean.

Total Basic ADL Score (Max = 24)

15. Global Function

- 0 = Able to live independently without assistance.
- 1 = Because of memory problems, requires at least weekly visit by outside support person.
- 2 = Requires daily help to function, needs caregiver, can be left alone for less than one hour.
- 3 = Requires help in all areas of function during day; cannot be left alone or requires medication for behavioral control.

Total ADL Score (Max = 50)

TOTAL Activities of Daily Living: (range = 0 - 50)

- 0 - 5 normal, depending on age, education, complaints
- 6 - 10 possible impairment
- 11 - 20 mild impairment
- 21 - 30 moderate impairment
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