

## Cognitive Testing Using the RBANS Update



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### Objectives

- Describe the indications for and benefits of cognitive testing.
- Discuss RBANS scoring guidelines and use of profiles.
- Discuss the use of RBANS test results in informing treatment recommendations.

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### Cognitive Testing: Indications

- Diagnosis
- Patient Care and Planning
- Treatment/rehabilitation Evaluation
- Research

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### Functional Consequences of Cognitive Impairment

- Forgetting
  - Things already learned, Appointments, Self-care (including medication)
- Getting Lost
- Following Commands/Instructions
- Mood
  - Depression, Anxiety
- Unpleasant Interpersonal Behavior
  - Anger, Paranoia, Inappropriate Sexual Remarks/Actions
- Capacity Limitations
  - Decision-Making: Financial, Medical
- Communication Deficits
  - Receptive, Expressive

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### Differential Diagnosis

- All types of cognitive impairment are treatable and many are reversible.
- Treatment for each is unique, although some overlap.
- Early identification can lead to early intervention and treatment.

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### Evaluation Process

- Interview
- History
- Medical Record Review
- Observation
- Assessment
- Evaluation should be multidisciplinary



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### But first some BASICS!

- Age?
- Education?
- Gender?
- Vision?
- Hearing?
- Motivation / engagement
- Anxiety
- Fatigue
- Depression
- Dysphasia
- drugs (psychotropic, social)
- psychosocial stressors
- pain
- physical illness....

Any of these factors can affect performance.

*Therefore qualitative aspects of assessment are every bit as important as the quantitative aspects*

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### Domains of Cognitive Testing

- Attention
- Executive Functioning
- Verbal Ability
- Visuospatial and Visuoconstructional Function
- Memory
- Affect
- Psychological Functioning

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### Pain Assessment in Cognitively Impaired Older Adults

(Adapted from the American Geriatric Society Panel on Persistent Pain in Older Adults, 2002)

- In cases of severe dementia or cognitive decline:
  - Visual assessment of:
    - facial expressions such as frowning, grimacing, tightly closed eyes.
    - Verbalizations such as moaning, asking for help, verbally abusive, noisy breathing.
    - Body movements such as rigid body posture, increased rocking/pacing.
    - Changes in interpersonal interactions such as becoming combative or socially isolating,
    - Changes in activity patterns such as cessation of common routines, sleep, eating changes, crying, increased confusion.
  - Note that some demonstrate little changes

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### Formal Assessment

- Testing is performed in a structured, controlled environment
- Patient is seen alone
- Test results are compared with scores from other patients the same age and education levels

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### RBANS: scoring and interpretation

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### Overview

- RBANS Update provides a brief, individually administered battery to measure cognitive decline or improvement across these domains:
- **Immediate Memory** – List Learning and Story Memory
- **Visuospatial/Constructional** – Figure Copy and Line Orientation
- **Language** – Picture naming and Semantic Fluency
- **Attention** – Digit Span and Coding
- **Delayed Memory** – List Recall, List Recognition, Story Memory, and Figure Recall

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**Repeating Instructions and Prompting**

- Important to remember you want to maximize performance.
- Permissible to repeat questions or instructions, except where specifically forbidden (learning tasks), in order to ensure the examinee understands.
- May prompt to encourage if refusing or hesitant.
- May ask for clarification if response is incomplete or ambiguous.

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**Visuospatial/Constructional**

- *Figure Copy*
- Goals: level of difficulty, ease of scoring
  - 10-item figure, 20 points total
  - same components in alternate form figure
  - scoring criteria on opposing face page for ease of use
- Show examinee a multipart geometric drawing and ask examinee to make an exact copy while the drawing remains on display.

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**Visuospatial/Constructional**

- *Figure Copy*
- Fold back the page in the RF and present the *Figure Copy Drawing Page* (in RF) along with the *stimulus* (in Stimulus Book).
- Ask the examinee to make an exact copy of the figure.
- Tell the examinee that he or she is being timed, but that the score is based *only* on the exactness of his or her copy.

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### Clarification of Scoring Criteria for RBANS Figure Copy and Recall: Rectangle

- Drawing:
  - Unbroken: slight breaks in the line ( $\delta 1/4''$ ) should still receive credit, which includes slight stops and restartings of a line
  - Straight: consider all the lines in the rectangle (e.g., if 3 of the 4 lines are acceptable, then give credit); slight waves are acceptable
  - 90 degree angles: "approximately"
  - Top and bottom are at least 20% longer than sides: compare the shortest side to the shortest top/bottom
- Placement:
  - Not rotated by 15 degrees: do not take credit off if the entire design is rotated by 90 degrees because the patient may have been given the paper in that direction

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### Diagonal Cross:

- Drawing:
  - Unbroken and straight: see above (1ai & ii)
  - Bisect each other: "approximately"
  - NOTE: only one line receives no credit
- Placement:
  - Ends of lines should meet in the corners: "without significant overlap of measurable distance;" refer to manual's Scoring Appendix to see that the correct design *does* allow some measurable distance between ends of lines and corners; consider all corners together (i.e., if 2 are ok and 2 is slightly off, give credit; if 3 are ok and 1 is way off [e.g., end of line extends beyond corner by 1/2" or more], don't give credit); examples of incorrect designs in the Appendix can be helpful in making these decisions

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### Horizontal line:

- Drawing:
  - Unbroken and straight: see above (1ai & ii)
  - Not exceed 1/2 of rectangle: if you have to measure it, its close enough and should get credit
- Placement:
  - Bisect rectangle: "approximately" 90 degree angle
  - Intersects diagonal: "approximately"; it does not have to perfectly split the horizontal V formed by the diagonal cross to receive credit; examples of incorrect designs in the Appendix can be helpful in making these decisions
  - NOTE: A single line that extends the entire length of the rectangle should not receive credit.

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**Circle:**

- **Drawing:**
  - Round: any circle-like figure receives credit unless it more clearly resembles another shape
  - Unbroken and closed: slight gaps are acceptable, especially if it is where the circle starts and stops; major gaps (e.g., gaps that make it resemble a U) are unacceptable; slight overlaps are acceptable; major overlaps (e.g., overlaps that make it resemble a 6) are unacceptable
  - Height of circle: "approximately 1/4 to 1/3" should be interpreted more loosely as 1/6 to 1/2; if you have to measure it, its close enough and should get credit
- **Placement:**
  - Placed in bottom segment: anywhere in bottom half of rectangle is ok (e.g., if no diagonal lines are present, the circle could be in the lower right corner and still receive credit)
  - Not touching any other part of rectangle

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**3 small circles:**

- **Drawing:**
  - Round, unbroken, and closed: see above (4ai & ii)
  - Equal in size: "roughly equal"
  - Triangular arrangement: "roughly" applies here too
  - Without touching each other
- **Placement:**
  - Placed in appropriate segment: if the horizontal and diagonal lines are present, the circles need to be within the lower left hand segment; if no horizontal line is present, they may be slightly above the halfway point but still in the left hand side of the rectangle
  - No circle touching another part of the figure
  - Triangle of circles must not be rotated 15 degrees or more: this seems to be intended to catch major rotations of the triangle pattern; 15 degrees is a lot of rotation, check a protractor

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**Square:**

- **Drawing:**
  - Sides must be closed, straight, and unbroken: Any square-like figure should receive credit; see above (4ai & ii)
  - Interior angles at 90 degree: "approximately"
  - Height of square: see above (4aiii)
- **Placement:**
  - Placed in appropriate segment: see similar notes above (4bi & 5bi)
  - Not touching any other part of figure
  - Not rotated more than 15 degrees: see above notes (5biii)

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**Curving Line:**

- Drawing:
  - Two curved segments: must be two pieces, but does not have to be one continuous line to receive credit; more than two segments does not receive credit
  - Equal in length: "approximately": look at incorrect examples in Scoring Appendix to highlight unequal segments
  - Symmetrical: "approximately": look at incorrect examples in manual's Scoring Appendix to highlight asymmetrical segments
  - Direction of curves should be correct
- Placement:
  - Ends should touch diagonal without significant overlap: many patients will not get the ends of the lines exactly on the diagonal, but they may still be entitled to credit, especially if the ends of the lines are close; if the lines fall a little short or slightly overshoot the diagonal, give credit; major misses or overshoots (e.g., 1/2" or more) should not get credit
  - Ends should not touch corner of rectangle or intersection of diagonals

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**Outside Cross:**

- Drawing:
  - Vertical line is roughly parallel to side of rectangle
  - Vertical line is more than 1/2 height of rectangle, but less than total height: use the rectangle side that's closest to vertical line as comparison: be liberal in measurement
  - Horizontal line should cross the vertical line at 90 degree angle: if the horizontal line does not completely cross the vertical, then no credit; angle is approximate
  - Horizontal line is 20 – 50% of vertical line: be liberal in measurement
- Placement:
  - Horizontal line must touch the rectangle: if the horizontal line is close to touching the rectangle side, give credit; however, if the cross appears to floating some distance away from the rectangle, do not give credit
  - Horizontal line touches rectangle higher than 2/3 height of rectangle, but below the top: be liberal in measurement
  - Horizontal line must not penetrate the rectangle: slight penetrations are okay, but major penetrations (e.g., <math>\leq 1/2</math> inch) are not

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**Triangle:**

- Drawing:
  - Angle formed by sides is 60 – 100 degrees: if you have to measure it, its close enough and should get credit
  - Sides are straight and unbroken: see above notes (1ai & ii)
  - Meet in a point: slight gaps are acceptable, as are slightly rounded points
  - Triangle should be approximately 50% of rectangle height: if you have to measure it, its close enough and should get credit (e.g., 30 – 70%)
- Placement:
  - Centered on left vertical side: "roughly"

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**Arrow:**

- Drawing:
  - Straight and unbroken: see above notes (1ai & ii)
  - Two lines of the arrow must be equal: "approximately" (e.g., one should not be double the length of the other)
  - Two lines of the arrow must be less than 1/3 length of staff: "approximately" (e.g., staff should be more than 2 times the length of the longest arrow line)
- Placement:
  - Protrudes from bottom left corner
  - Appears to be a continuation of the diagonal cross
  - NOTE: if the diagonal cross does not exactly protrude from the lower left corner (e.g., 1/4" above/below the corner), but the arrow is a continuation of that line, credit should be given

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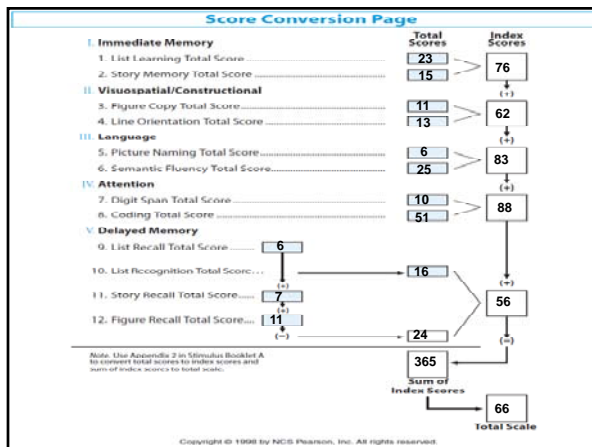
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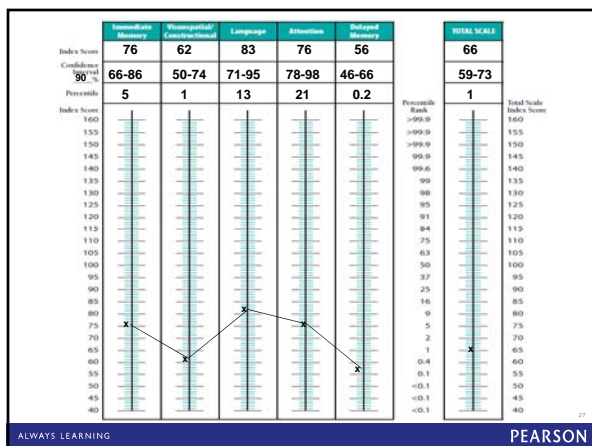
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**Clinical validity**

- One important goal was the ability to “profile” dementia, as an aid in diff dx and tx planning.
- Ideal initial group comparison is HD vs AD, for lack of dx overlap and distinct neuropathologies.

	N	MMSE	DRS
AD	20	23.5	121.3
HD	20	24.3	120.8
NC	40	--	--

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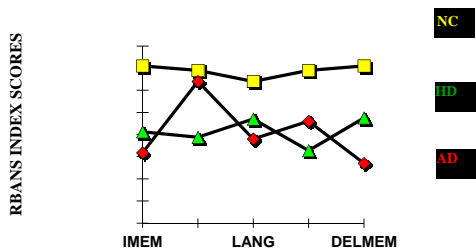
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**RBANS dementia profile comparison  
(from Randolph et al., 1998)**



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**Interpretive Guidelines for Detecting and Characterizing Dementia in the Elderly**

1. Is there evidence for some type of acquired impairment?
2. What is the nature of the deficits? If deficits are detected, two additional questions become relevant:
  - 3. What is the likely associated disease process?
  - 4. What interventions are appropriate?

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**DSM-IV Criteria for Dementia**

- A. Development of multiple cognitive deficits:
  - Memory impairment, plus
  - One or more Cognitive Disturbances:
    - Aphasia: disorder of language
    - Apraxia: impaired motor activities
    - Agnosia: inability to recognize or identify objects
    - Dysexecutive: defective initiation, planning, organization/abstraction
- B. Cognitive deficits cause significant impairment in social/occupational functioning and are a decline from previous level of functioning

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**Mild Cognitive Impairment**

- Patients who are memory impaired but are otherwise functioning well and do not meet clinical criteria for dementia are classified as having MCI
- Symptoms include
  - Memory complaint, preferably with corroboration
  - Objective memory impairment
  - Normal general cognitive function
  - Intact activities of daily living
  - Not demented
- Patients with MCI should be recognized and monitored for cognitive and functional decline due to their increased risk for subsequent dementia

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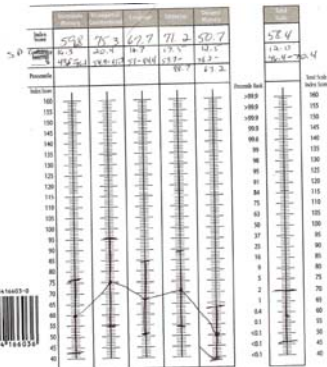
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**AD profile – mean scores**



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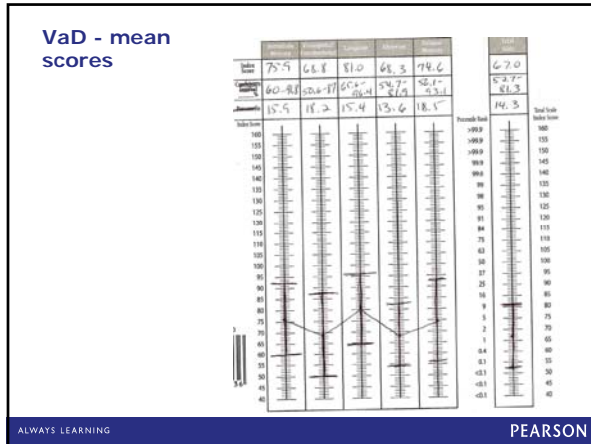
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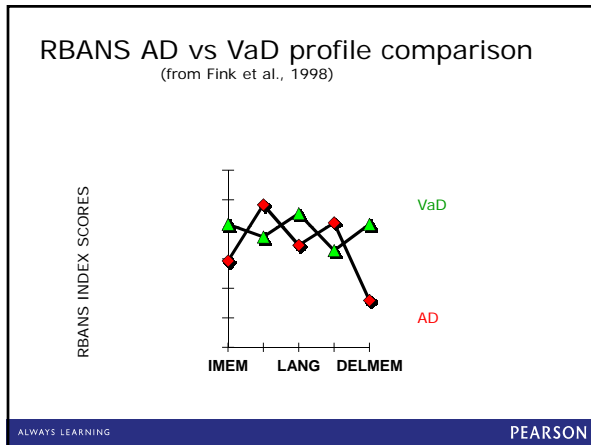
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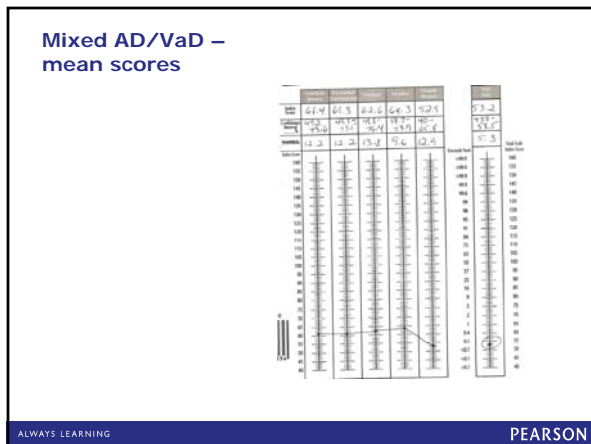
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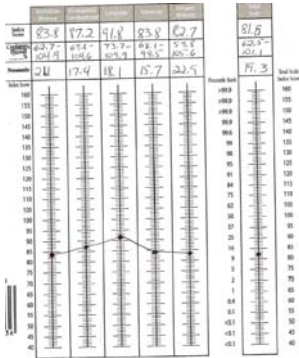
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**Parkinson's Disease – mean scores**



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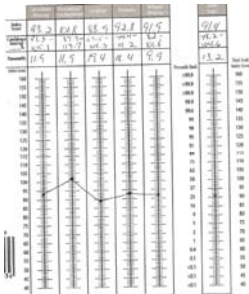
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**Depression – mean scores**



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**Cognitive Features of Depression**

- Impaired Recall
- Intact Recognition Memory
- Resolve with Treatment
- Can Coexist with Dementia

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### Dementia vs. Depression

- | Dementia   | Depression   |
|--|--|
| <ul style="list-style-type: none"><li>• Widespread memory dysfunction</li><li>• Recall and recognition memory is impaired</li><li>• Intrusion errors common in memory tasks</li><li>• Mood and behavior fluctuate</li><li>• Not worried about cognitive loss, may try to conceal cog. problems, anosognosia.</li></ul> | <ul style="list-style-type: none"><li>• Memory dysfunction more focal (visual memory is poor)</li><li>• Recognition memory is intact</li><li>• Omission errors common in memory task, not as many intrusions</li><li>• Mood consistently poor</li><li>• Frequent complaining, high level of distress.</li><li>• Very distressed about cognitive loss</li></ul> |

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### Using RBANS test results to Inform Treatment Recommendations

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### General Interpretation

- Primary focus is on the Index level measures
- Subtest interpretation should be done judiciously

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### Qualitative Description of RBANS Index Scores

**Table 5.1** Qualitative Descriptions of RBANS Index Scores

Index Score	Classification	Percent Included	
		Theoretical Normal Curve	Actual Sample
130 and above	Very Superior	2.2	2.4
120-129	Superior	6.7	7.0
110-119	High Average	16.1	16.5
90-109	Average	50.0	50.0
80-89	Low Average	16.1	16.1
70-79	Borderline	6.7	5.9
69 and below	Extremely Low	2.2	2.0

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### Classification Descriptors for Subtest Scaled Scores

**Table 5.2** Classification Descriptors for Subtest Scaled Scores

Scaled Score	Classification	Percent Included
		Theoretical Normal Curve
16 and above	Very Superior	2.2
14-15	Superior	6.7
12-13	High Average	16.1
8-11	Average	50.0
6-7	Low Average	16.1
4-5	Borderline	6.7
3 and below	Extremely Low	2.2

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### Classification Descriptors for Percentile Bands

**Table 5.3** Classification Descriptors for Percentile Bands

Percentile Bands (Cumulative Percentages)	Band Descriptor
> 75	High Average
26-75	Average
10-25	Low Average
3-9	Borderline
≤ 2	Extremely Low

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### Total Index Score

- Composite of all indexes within the battery.
- Good indicator of general cognitive functioning
- Low scores strongly suggest general cognitive impairment even when some individual subtest scores may be within normal limits.
- Individuals with low scores on this measure exhibit problems with attention, memory, language, and constructional skills.
- Scores in low average to borderline range indicate either general lowering of skills across domains or variability in cognitive functioning with some lower and higher scores.

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### Subtest level performance interpretation

- Scores represent both independent and related measures that can be used individually or in combination for interpreting examinee's performance.
- Do not over interpret one or two low scores as these may commonly occur on a battery of tests in the general population

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### Memory

- Most common referral concern
- Nature of complaint important:
  - Recent vs. Remote
  - Immediate vs. Delayed
  - Verbal vs. Visual
  - Recall, Recognition
- Testing evaluates ability to acquire, store, and retrieve information in memory

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### Immediate Memory Index

- Measure of initial encoding and learning of complex and simple verbal information
- Low scores indicate difficulties with verbal learning
- Low average or borderline scores on this index can represent general low average verbal memory functioning or may occur when there is variability in the subtests that comprise the index.
- Related to ability to self-medicate, manage finances, remember appointments, cook, drive
- Impacts all other areas

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### Visuospatial and Visuoconstructive Function

- Involved in processing and manipulation of visual information from the environment.
  - Maneuvering wheelchair down the hall
  - Locating other people or items in busy environment
- Includes both written words and nonverbal stimuli such as picture, faces, and other images

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### Visuospatial / Constructional Index

- Measures basic visuospatial perception and ability to copy a design from a model.
- Low scores indicate difficulties with processing and using visuospatial information. And may also occur in examinees with severe visual impairments or attention disorders such as hemineglect.
- Low average or borderline scores can represent general low average visuospatial functioning or may occur when there is variability in the subtests that comprise the index. Impacts visuospatial processing
- Impacts driving, food preparation, use of tools

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### Recommendations for Visual-Spatial Impairments

- Rule out vision problems
- For neglect, place objects to one side
- Emphasize verbal communication
- Establish strong, simple environmental cues
- Provide safety measures if person wanders or gets lost
- Patient may have difficulty locating objects in L or R visual field.
- Patient may need assistance with tasks involving visuospatial skills.
- Patient should not operate a motor vehicle or machinery.

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### Attention

- Determines which information is perceived, processed, and remembered.
  - Selective attention – ability to choose task on which to attend.
  - Focused attention – ability to maintain focus on task in presence of distraction
  - Divided attention – ability to allocate mental resources between tasks performed together or at same time.
  - Sustained attention – ability to sustain mental resources on task over longer periods of time.

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### Attention Index

- Measure of simple auditory registration and visual scanning and processing speed.
- Low scores indicate difficulties with basic attention processes and speed of information processing.
- Low average or borderline scores can represent general low average attention and processing speed or may occur when there is variability in the subtests that comprise the index.
- Affects all ADLs

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### Recognizing Delirium

- Confusion that develops over days or weeks
- Trouble with attention, focus, & concentration
- Waxing and waning
- Fluctuating sleep disturbances
- Erratic, uncharacteristic, inappropriate behavior
- Hallucinations (especially visual), paranoia
- Can be hyperactive (agitated) or hypoactive (sedated)
- Delirium often goes unrecognized
- Acting "normal" during one assessment does not rule out delirium
- Falling asleep during interview strongly suggests delirium

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### Recommendations for Attentional Impairments

- Evaluate for delirium
- Minimize presented information
- Keep instructions simple (one-step or two-steps at a time)
- Speak slowly, giving the person time to process each unit of information; speak in brief phrases or short sentences.
- Frequently orient the person (if appropriate for patient)
- Patient may need multiple chances to learn new information.
- Patient may have difficulty responding to rapidly changing task demands.

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### Verbal Ability

- Speech Comprehension (Receptive Speech)
  - Ability to respond to questions
  - Ability to react appropriately to comments
  - Ability to respond to instructions for simple tests
- Expressive speech
  - Fluency
  - Articulation
  - Prosody
  - Naming
  - Repetition

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**Language Index**

- Measure of expressive language functioning.
- Low scores indicate difficulties with fluent use of language.
- Primarily indicative of expressive language functioning, but individuals with receptive language impairments will also have low scores on this measure.

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**Recommendations for Language Impairments**

- Refer for speech evaluation
- Use one- or two-step commands if comprehension is a problem
- Avoid long sentences
- Ask "Yes-No" questions
- Use alternative communication devices
- Pointing and gesturing may be helpful
- Emphasize visual communication
- Consider evaluation with speech therapist

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**Delayed Memory Index**

- Measure of delayed recall and recognition for verbal and visual information.
- Low scores indicate difficulties with recognition and retrieval of information from long-term memory stores.
- Impacts all areas.

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**Recommendations for Memory Impairments**

- (visual) include use of calendars, notes, pictures, other cues
- (verbal) include repeating directions over and over, use of strategies to remember names or other information, such as saying information out loud, repeating it, making associations, restating, use of audio recorder to cue.
- Emphasize remote memories, and de-emphasize recent memories
- Simplify the environmental demands
- Establish routines and structured environments

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**Recommendations for Memory Impairments cont.**

- Be patient!
- Keep incoming information simple
- Have the person repeat information
- Give the person multiple trials of learning
- Provide "clues" when asking questions
- Use memory assistance: e.g., notes, visual cues, alarms, calendars, pictures...

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**Executive Functioning**

- Ability to plan and carry out behavior consistent with cues and task requirements and to flexibly adjust behavior in response to changing task requirements.
- Development of task strategies, problem solving, conceptual inference, awareness of the quality of intellectual function and recognition and display of socially inappropriate behavior.

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### Executive Impairments

- May be the most serious impairment of all
- May be the most complex impairment of all
- Includes such impairments in social inhibition, decision making, maintaining task, performance of complex behaviors, initiation of purposive behavior, awareness of self, abilities, and environment

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### Recommendations for Executive Impairments

- Persons with executive impairment may need help with anything from dressing themselves to medical decision-making and financial planning and management
- The worse the impairment, the more structured and controlled environment is needed (but provide least restrictive support)
- Don't take inappropriate behavior personally!
- Avoid assuming an impaired person can really do something when he or she can't!

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### Treatment Planning and Implications

- Referrals
- Day-to-day assistance
- Environment
- Communication
- Supervision needs
- Medication
- Other changes and recommendations

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**Recommendations**

- Need For Further Assessment
  - Administer additional neuropsychological testing
  - Recommend medical or neurological evaluation including neuroimaging where appropriate
  - Recommend a psychiatric evaluation
  - Recommend an assessment of specific functional capacities and in-home safety
  - Consider evaluation by social worker, visiting nurse, or case manager of the patient's living situation and family, community, and fiscal resources.

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**Recommendations cont.**

- Need For Further Treatment
  - Medications or other agents may be indicated to treat the cognitive symptoms of dementia.
  - Psychoactive medications may be indicated to manage other symptoms associated with dementia (psychosis, agitation, depression, anxiety, sleep disturbance)
  - Psychosocial interventions may be helpful, including
    - Behavior-oriented treatments
    - Stimulation-oriented treatments
    - Emotion-oriented treatments
  - Cognition-oriented treatments focused on specific deficits may be warranted in patients with sufficiently preserved cognition.
  - Environmental changes such as making adjustments in the residential environment

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**Recommendations for Sensory Impairments - Hearing**

- Have ear canals checked
- Refer for hearing evaluation
- Use hearing aids
- Use "Pocket Talkers"
- Avoid noisy environments
- Speak slowly
- High pitched voices may have more difficulty
- Have person repeat the information

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### Recommendations for Sensory Impairments - Vision

- Refer for vision evaluation
- Use corrective eyeglasses
- Use magnifiers
- Use large-print books and materials

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### Medications



- Use of SSRI antidepressants may reduce depression and activate some brain areas
- Cholinesterase medications ("memory enhancing" medications) may provide modest improvement
- Avoid benzodiazepines (anti-anxiety drugs) if possible
- Antipsychotic medications may be helpful but should be carefully used
- Pharmacological referral to review medications

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### Recommendations for Caregivers

- Discomfort is normal
- Don't take hostility personally
- Expect inconsistent behavior
- Every person is different – some recommendations may not work!
- Use the results of cognitive evaluations to come up with new management ideas (focus on areas of strength)

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### Identify Problem Behaviors

- Withdrawal, apathy, negativism.
- Physical aggressiveness.
- Verbal aggressiveness.
- Suspiciousness.
- Delusions and hallucinations.
- Wandering with agitation/aggression.
- Sexually inappropriate behavior with agitation/aggression.
- Anxiousness, restlessness.
- Sadness, crying, anorexia.
- Benign aimless wandering.
- Inappropriate urination/defecation.
- Inappropriate dressing/undressing.
- Vocally repetitious behavior.

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### Treat Problem Behaviors

- Manage one problem at a time.
- Rule out medication side effects, occult medical disorder, environmental triggers.
- Find and control pain.
- Consider psychiatric diagnosis.
- Reassess medication if safety of patient or others at risk.
- Minimize polypharmacy. If must try a medication, start low, titrate gradually, watch for side effects, and taper off after 3 months to see if remains stable.
- Register in a "safe return program" if risk of wandering.
- Look for unintentional behavior rewarding that can be eliminated.
- Modify environment (e.g. music, people, pets, wall color, activity).
- Encourage walking and other light exercise.
- Remove ability to engage in conflict and dangerous behaviors.
- Eliminate provoking factors (e.g., urinary tract infection, certain staff interactions, unwanted routine events).

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#### Nonpharmacologic options

Table 10. Options for treating mild to moderate behavioral disturbances	
Behavior	Approach
Verbal/physical outbursts, flailing limbs	<ul style="list-style-type: none"> <li>▪ Evaluate what might be contributing to the patient's behavior (e.g., pain, fatigue, medication side effects, environmental factors), and treat and/or change.</li> <li>▪ Sensory/relaxation activities: aromatherapy (such as lavender or lemon oil), music therapy, pet therapy, exercise training, massage or touch therapy (National Collaborating Centre for Mental Health, 2006).</li> </ul>
Wandering (leaving the house)	<ul style="list-style-type: none"> <li>▪ Keyed deadbolt for entry to and exit from the house.</li> <li>▪ Lock box for keys.</li> <li>▪ ID bracelet and/or picture ID.</li> <li>▪ MedicAlert® + Alzheimer's Association Safe Return® program, a nationwide emergency response service (<a href="http://www.alz.org/care/dementia-medical-alert-safe-return.asp">www.alz.org/care/dementia-medical-alert-safe-return.asp</a>).</li> </ul>
Refusing care/medication	<ul style="list-style-type: none"> <li>▪ Explore "keys" to unlock cooperation (e.g., activities the patient enjoys, or finds calming or distracting).</li> <li>▪ Discuss with family hiding medication in food.</li> </ul>

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### Tips for caregivers on dealing with behaviors

- **Dealing with verbal and physical outbursts**
- Remain calm. Be reassuring and positive. Speak slowly and in a soft tone.
- Consider what might be contributing to the patient's behavior. Is he/she tired, overstimulated by noise or an overactive environment, or picking up on your own stress or irritability?
- Rule out pain as the cause.
- Think about what happened right before the behavior that may have triggered it.
- Try a relaxing activity, or shift to a different activity—the immediate situation may have unintentionally caused the response.
- Decrease level of danger. Avoid harm to yourself by standing away from the patient.
- See the Aggression and Anger page on the Alzheimer's Association website
- ([www.alz.org/care/alzheimers-dementia-aggression-anger.asp](http://www.alz.org/care/alzheimers-dementia-aggression-anger.asp)).

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### Dealing with wake/sleep disturbances

- Make a safe and comfortable sleep environment (i.e., temperature, nightlights, appropriate door/window locks).
- Maintain a schedule. A regular routine of waking up, meals, and going to bed allows for more restful sleep.
- Identify and limit triggers—such as TV, loud music—especially during evening hours.
- See the Sleep Issues and Sundowning page on the Alzheimer's Association website ([www.alz.org/care/alzheimers-dementia-sleep-issues-sundowning.asp](http://www.alz.org/care/alzheimers-dementia-sleep-issues-sundowning.asp)).

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### Thank you!

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