Using Scales and Measurement
to Improve Quality
in your Geriatric Psychiatry Practice

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Objectives

- Name 3 limitations of the MMSE and 2 ways in which it is useful clinically
- Describe the use of the NPI in pts with dementia and behavior disturbance.
- Describe how information about attention affects interpretation of standard cognitive assessments.
- List 3 ways testing for a person with Vascular Dementia might differ from a person with Alzheimer's Dementia.

Tools:

- Global Rating of Severity
- Global Rating of Change
- MMSE
- SLUMS
- MoCA
- CDT
- MiniCog
- Mattis DRS-2
- TRAILS A and B
- Cognistat (NCSE)
- Blessed OMC
- NPI
- MSSE
- FAST
- PAINAD
- ICDSC
- EXIT-25
- GDS
- HAM-D

Case studies:

- Alcoholic dementia
- Alzheimer's Disease
- Frontotemporal dementia
- Vascular dementia,
- Lewy Body Dementia
- Parkinson's Disease Dementia
- Major Depressive Disorder
- Delirium
- Subacute delirium
- Mania
- Depression in Dementia
- Pain assessment in dementia
- Suffering in dementia

Why Scales?

- Scales help us understand the level of symptomology of our patients, aid diagnosis and help gauge treatment efficacy

- The art of medicine is in matching tools to symptoms and signs and interpreting results

Measurement 101

- Reliability vs. Validity
- Positive Predictive Value (PPV)
- Sensitivity vs. Specificity
- Type I vs Type II errors

Reliability vs. Validity

- Reliability
  - Is the measure accurate?
- Validity
  - Does it measure what it is supposed to?

Positive Predictive Value (PPV)

- If the instrument says depression, what is the probability that the patient actually has depression?

$$PPV = \frac{\#\text{ correct instrument diagnosed depression}}{\#\text{ all instrument-diagnosed depression}}$$

Sensitivity: When Yes means Yes

- If a patient has depression, what is the probability the instrument indicates depression?

$$\text{Sensitivity} = \frac{\#\text{ correctly diagnosed with depression}}{\#\text{ actually have depression}}$$

Specificity: When No means No

- If a patient does not have depression, what is the probability the instrument does not indicate depression?

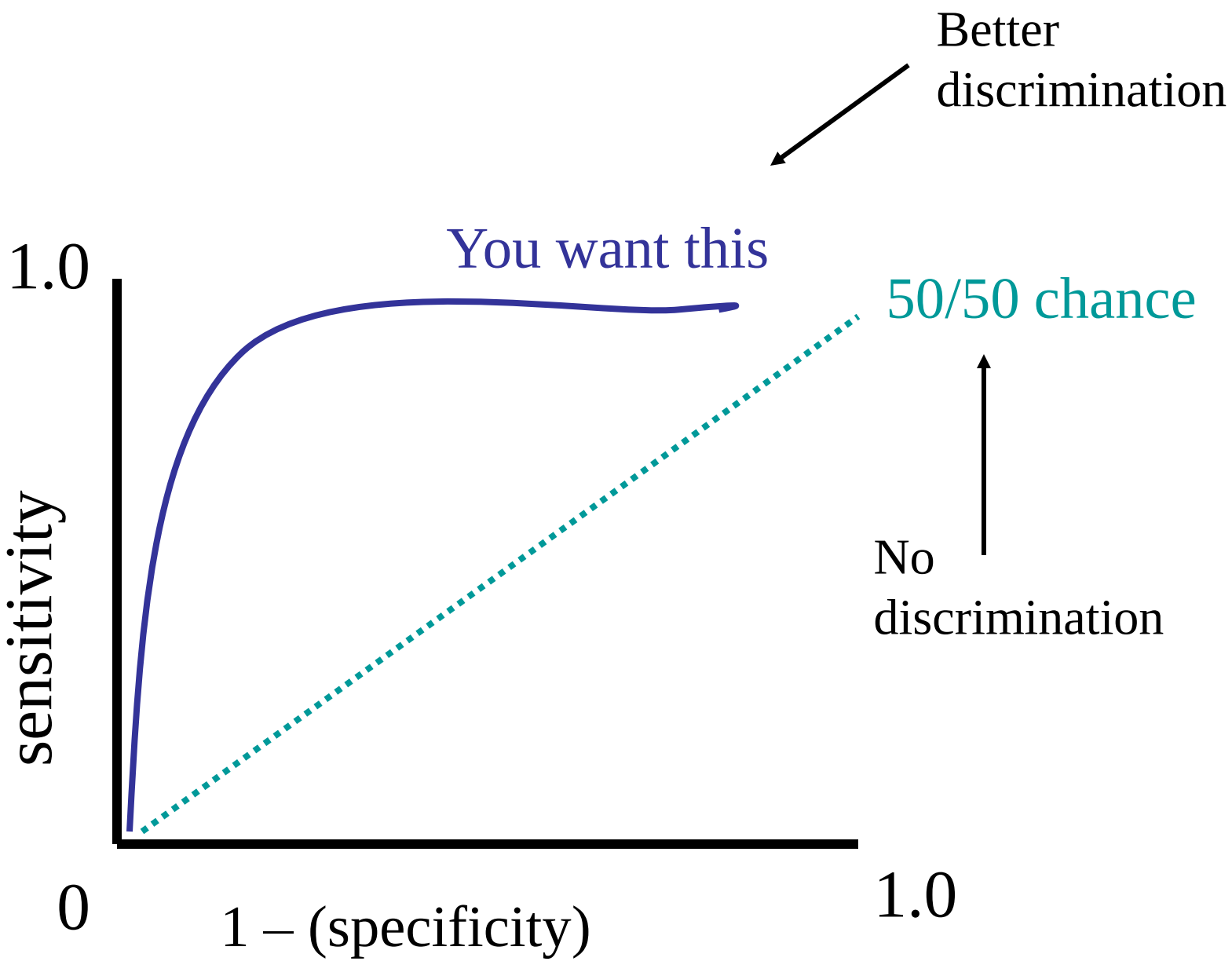
$$\text{Specificity} = \frac{\#\ \text{correctly excludes depression}}{\#\ \text{do not have depression}}$$

The Sensitivity ←→ Specificity Continuum

Sensitivity

They really have depression.	You think they have depression, but they really don't. (Type II error)
You don't think they have depression, but they really do. (Type I error)	You don't think they have depression, and they don't.

Specificity


Better
discrimination
You want this
50/50 chance
1.0
sensitivity
No
discrimination
0
1 – (specificity)
1.0

Global Rating Scales

Global Rating of Severity

Clinical Global Impression – Severity scale (CGI-S)

- 7-point scale; rates severity of illness at the time of assessment, relative to the clinician's past experience with patients who have the same diagnosis.
  - 1 - No Symptoms
  - 2 - Minimal
  - 3 - Mild
  - 4 - Moderate
  - 5 - Moderately Severe
  - 6 - Severe
  - 7 - Extreme

Guy W: Clinical Global Impressions (CGI) Scale. Modified From: Rush J, *et al.*: Psychiatric Measures, APA, Washington DC, 2000.

Global Rating of Severity

Clinical Global Impression – Severity scale (CGI-S)

- Advantages
  - Quick
  - Free
- Disadvantages
  - Subjective
  - Dependent upon clinician experience
  - Not as valid as symptom-specific scales

Guy W: Clinical Global Impressions (CGI) Scale. Modified From: Rush J, *et al.*: Psychiatric Measures, APA, Washington DC, 2000.

Global Rating of Change

Clinical Global Impression – Improvement scale (CGI-I)

- 7-point scale; rates the degree to which the pt's illness has improved or worsened relative to baseline.

    1 - Marked Improvement

    2 - Moderate Improvement

    3 - Minimal Improvement

    4 - No Change

    5 - Minimally Worse

    6 - Much Worse

Guy W: Clinical Global Impressions (CGI) Scale. Modified From: Rush J, *et al.*: Psychiatric Measures, APA, Washington DC, 2000.

Global Rating of Change

Clinical Global Impression – Improvement scale (CGI-I)

- Advantages
  - Quick if you know the patient well
  - Free
  - Robust measure of efficacy
- Disadvantages
  - If you don’t know the patient it is not quick and it is less robust

Guy, W. (Ed.), 1976. Clinical Global Impressions. In: ECDEU Assessment Manual for Psychopharmacology, revised. National Institute of Mental Health, Rockville, MD.

Criticism of Global Rating Scales

- Despite frequent use, the CGI has been criticized for being inconsistent, unreliable, and too general to provide meaningful information about patient clinical status or treatment response
- Potential flaws for validity and reliability
  - Inconsistency and asymmetry in scaling
  - lack of clearly identified time frames for evaluating change (Dr N uses first eval and last appt)
  - redundancy and different scaling in the two change measures (severity and improvement)
  - inability to differentiate improvement ascribable only to the treatment effect

M.K Spearing et al. /Psychiatry Research 73 (1997) 159-I 71

Scales to Assess Cognition

Dementia/Cognition Scales

- Issues inherent to performance-based assessment:
  - Comparison with normative values may not detect very mild decline in high functioning individuals.
  - May falsely detect dementia in individuals with life-long poor cognitive function
- Formal neuropsychological evaluations:
  - Have less bias, but require extensive training
  - Often too lengthy and tiring for frail elders
- Desired Attributes of a brief scale
  - Predictive of early dementia
  - Inexpensive
  - High face validity
  - Reliable, Sensitive, and Specific
  - Easy to administer and score

Galvin, JE. Dementia Screening. http://www.alz.washington.edu/NONMEMBER/SPR07/galvin.pdf. Retrieved 1/19/2012

Mini Mental State Exam (MMSE)

- 30-item questionnaire
- Screens for cognitive impairment in orientation, memory, language, attention, visual/spatial ability
- Typical deterioration of 3-4 points per year

- Trivia: Susan was a psychiatry resident rotating on geripsych. Marshal was the attending. He kept asking for info, so she finally asked him to write down all of the things he wanted her to include → the MMSE was born, and they became Folstein MF and Folstein SE.

Folstein MF et al. (1975), J Psychiatr Res 12(3):189-198

Mini Mental State Exam (MMSE)

- Sensitivity:
  - 75.9 + 22.5 (range 21-100)
- Specificity:
  - 84.3 + 14.3 (range 46-100)
- Positive Predictive Value (PPV):
  - 69.6 + 24.6 (range 31-100)
- Negative Predictive Value:
  - 82.3 + 18.8 (range 32-100)

Galvin, JE. Dementia Screening. http://www.alz.washington.edu/NONMEMBER/SPR07/galvin.pdf. Retrieved 1/19/2012

Mini Mental State Exam (MMSE)

- Advantages
  - Long considered the Gold Standard
  - Can be used for a common language between clinicians
  - Can be useful for serial screening
- Disadvantages
  - Affected by education and intelligence
  - Insensitive to early dementia
  - No measure of executive function
  - No longer free

Folstein MF et al. (1975), J Psychiatr Res 12(3):189-198

Mini Mental State Exam (MMSE)

- 2010 edition (MMSE-2:SV)
  - Standard version: 10 foreign languages
- MMSE-2: Brief Version (MMSE-2:BV)
  - Designed for rapid assessment
  - Useful for MCI
- MMSE-2: Expanded Version (MMSE-2:EV)
  - Sensitive to subcortical dementia
  - Does not have a ceiling effect

MMSE-2 home page. www.parinc.com

St. Louis University Mental State Exam (SLUMS)

VAMC
SLUMS EXAMINATION

Questions about this assessment tool? E-mail aging@slu.edu

Name_____ Age_____

Is the patient alert?_____ Level of education_____

__/1 (1) 1. What day of the week is it?

__/1 (1) 2. What is the year?

__/1 (1) 3. What state are we in?

4. Please remember these five objects. I will ask you what they are later.
Apple Pen Tie House Car

5. You have $100 and you go to the store and buy a dozen apples for $3 and a tricycle for $20.
(1) How much did you spend?
__/3 (2) How much do you have left?

6. Please name as many animals as you can in one minute.
__/3 (0) 0-4 animals (1) 5-9 animals (2) 10-14 animals (3) 15+ animals

__/5 7. What were the five objects I asked you to remember? 1 point for each one correct.

8. I am going to give you a series of numbers and I would like you to give them to me backwards. For example, if I say 42, you would say 24.
__/2 (0) 87 (1) 648 (1) 8537

9. This is a clock face. Please put in the hour markers and the time at ten minutes to eleven o'clock.
(2) Hour markers okay
__/4 (2) Time correct

(1) 10. Please place an X in the triangle.

__/2 (1) Which of the above figures is largest?

11. I am going to tell you a story. Please listen carefully because afterwards, I'm going to ask you some questions about it.
Jill was a very successful stockbroker. She made a lot of money on the stock market. She then met Jack, a devastatingly handsome man. She married him and had three children. They lived in Chicago. She then stopped work and stayed at home to bring up her children. When they were teenagers, she went back to work. She and Jack lived happily ever after.

__/8 (2) What was the female's name? (2) What work did she do?
(2) When did she go back to work? (2) What state did she live in?

_____ TOTAL SCORE

SCORING

High School Education		Less than High School Education
27-30	Normal	25-30
21-26	Mild Neurocognitive Disorder	20-24
1-20	Dementia	1-19

http://medschool.slu.edu/agingsuccessfully/pdfsurveys/slumsexam_05.pdf

St. Louis University Mental State Exam (SLUMS)

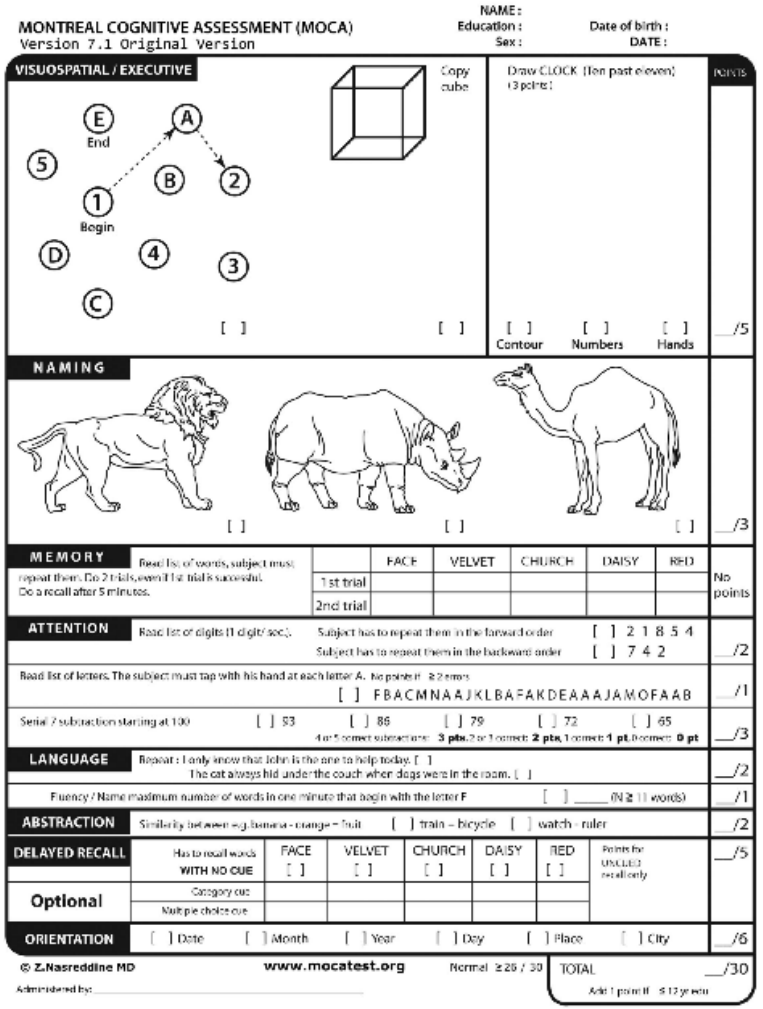
- Advantages
  - Sensitivity 1.0 / Specificity 0.98
  - Good for MCI
  - Free

- Disadvantages
  - Test/retest bias
  - May be too complex for office use
  - Has not been extensively studied

HSRD. 2010 A Systematic Evidence Review of the Signs and Symptoms of Dementia and Brief Cognitive Tests Available in VA

Montreal Cognitive Assessment (MoCA)

- www.mocatest.org
- Includes the CDT and Trails B



MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.1 Original Version

NAME :
Education :
Sex :
Date of birth :
DATE :

VISUOSPATIAL / EXECUTIVE — Copy cube — Draw CLOCK (Ten past eleven) (3 points) — points /5
Contour [ ] Numbers [ ] Hands [ ]

NAMING — /3

MEMORY — Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes. — No points

	FACE	VELVET	CHURCH	DAISY	RED
1st trial					
2nd trial					

ATTENTION — Read list of digits (1 digit/sec.): Subject has to repeat them in the forward order [ ] 2 1 8 5 4 — Subject has to repeat them in the backward order [ ] 7 4 2 — /2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors — [ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B — /1

Serial 7 subtraction starting at 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65 — 4 or 5 correct subtractions: 3 pts, 2 or 3 correct: 2 pts, 1 correct: 1 pt, 0 correct: 0 pt — /3

LANGUAGE — Repeat : I only know that John is the one to help today. [ ] — The cat always hid under the couch when dogs were in the room. [ ] — /2

Fluency / Name maximum number of words in one minute that begin with the letter F [ ] ____ (N ≥ 11 words) — /1

ABSTRACTION — Similarity between e.g. banana - orange = fruit [ ] train - bicycle [ ] watch - ruler — /2

DELAYED RECALL — /5

	Has to recall words WITH NO CUE	FACE [ ]	VELVET [ ]	CHURCH [ ]	DAISY [ ]	RED [ ]	Points for UNCUED recall only
Optional	Category cue						
	Multiple choice cue						

ORIENTATION — [ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City — /6

© Z.Nasreddine MD — www.mocatest.org — Normal ≥ 26 / 30 — TOTAL /30

Administered by: _____ — Add 1 point if ≤ 12 years edu

Nasreddine ZS, Phillips NA, et al. The Montreal Cognitive Assessment, MoCA: A brief screening tool for mild cognitive impairment. *J Am Geriatr Soc*. 2005;53:695-699.

Montreal Cognitive Assessment (MoCA)

- Advantages
  - Comes in every flavor
  - Free
  - 3 forms, to reduce test/retest bias
  - Useful for MCI

- Disadvantages
  - Takes 20-30 minutes to administer
  - Not validated in large samples
  - Specificity is very low (35-50%)

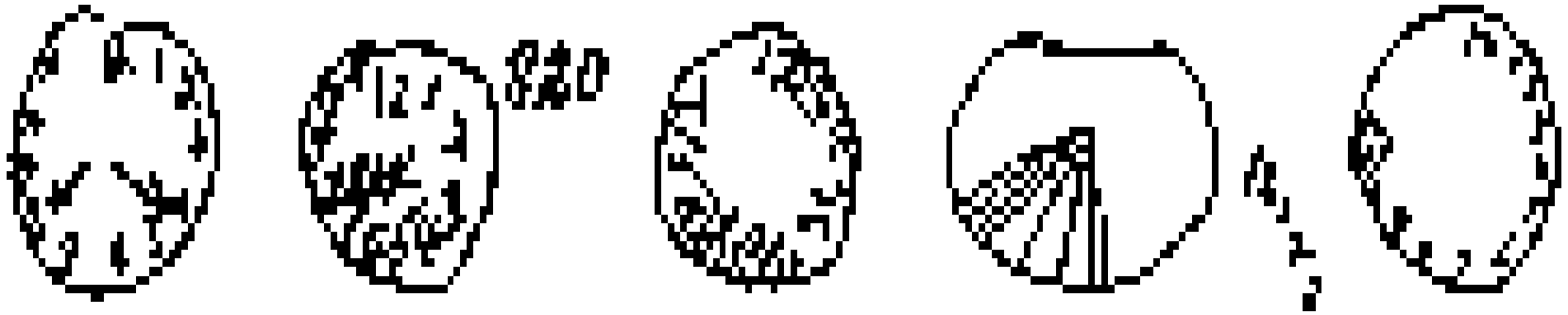
Nasreddine ZS, Phillips NA, et al. The Montreal Cognitive Assessment, MoCA: A brief screening tool for mild cognitive impairment. *J Am Geriatr Soc*. 2005;53:695-699.

Clock Drawing Test

- Advantages
  - Q&D Screen
  - Tests planning, organizing, sequencing, and abstraction in one easy step
- Disadvantages
  - Bazillion different ways to score it
  - Limited to a single cognitive domain

Agrell B, Dehlin O. The clock-drawing test. *Age and Ageing*. 1998; 277: 399-403.

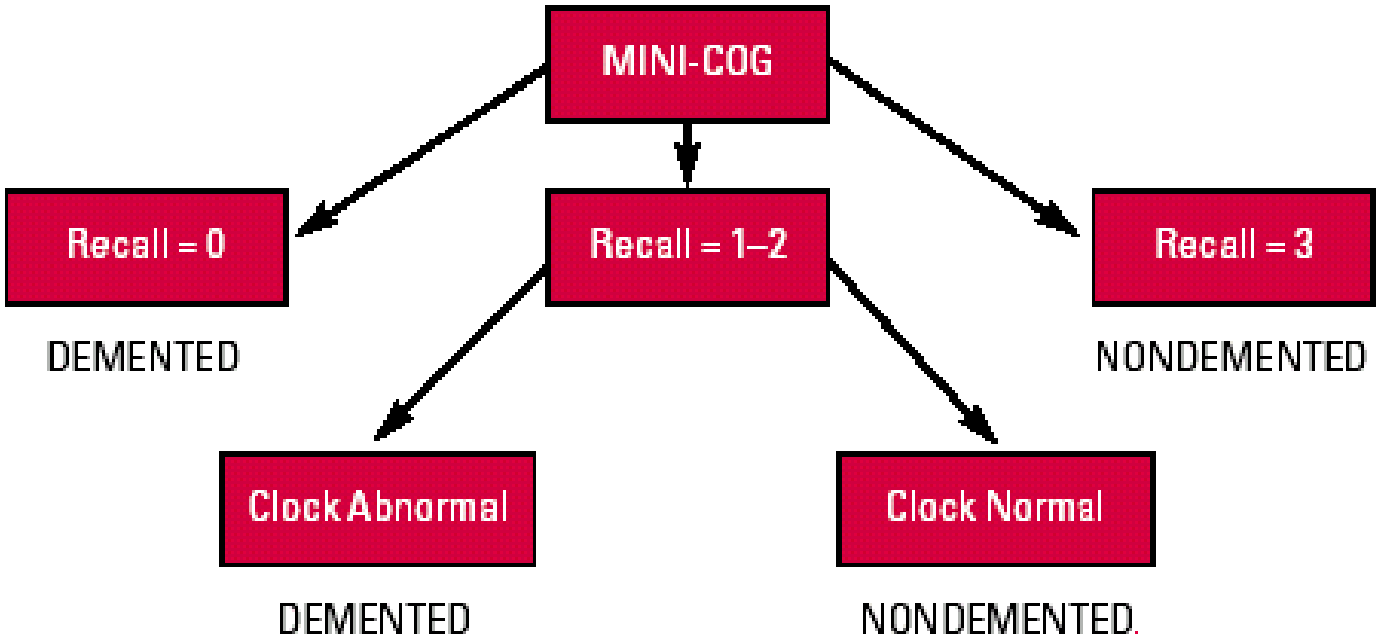
Clock Drawing Test



A	B	C	D	E
CDT	CDT	CDT	CDT	CDT
4	2	2	1	2
MMSE	MMSE	MMSE	MMSE	MMSE
30	20	19	14	19

Mini-Cog

- Brief screen of short-term recall + clock drawing test
- 3-item registration → CDT (informative distraction) → recall
- Scoring



Borson S, Scanlan J, Brush M, et al.The Mini-Cog:'vital signs' measure for dementia screening in multi-lingual elderly.*Int J Geriatr Psychiatry.* 2000; 15: 1021-1027.

Mini-Cog

- Advantages
  - 3-5 minutes
  - Less affected by ethnicity, language, education than the MMSE
  - Useful for MCI
  - Decent sensitivity and specificity
- Disadvantages
  - May be inappropriate for individuals with very low levels of education or literacy

Borson S, Scanlan J, Brush M, et al.The Mini-Cog:'vital signs' measure for dementia screening in multi-lingual elderly.*Int J Geriatr Psychiatry.* 2000; 15: 1021-1027.

Mattis Dementia Rating Scale (DRS-2)

- Main domains + subscales:
  - Attention
  - Initiation and Perseveration
  - Constructions
  - Conceptualization
  - Memory

  - Both Verbal & Visual memory and conceptualization

Mattis dementia rating scale (1976). Mattis S. IN: Burns A; Lawlor B & Craig S. (1999). Assessment scales in old age psychiatry. London : Martin Dunitz. Pg. 186

Mattis Dementia Rating Scale (DRS-2)

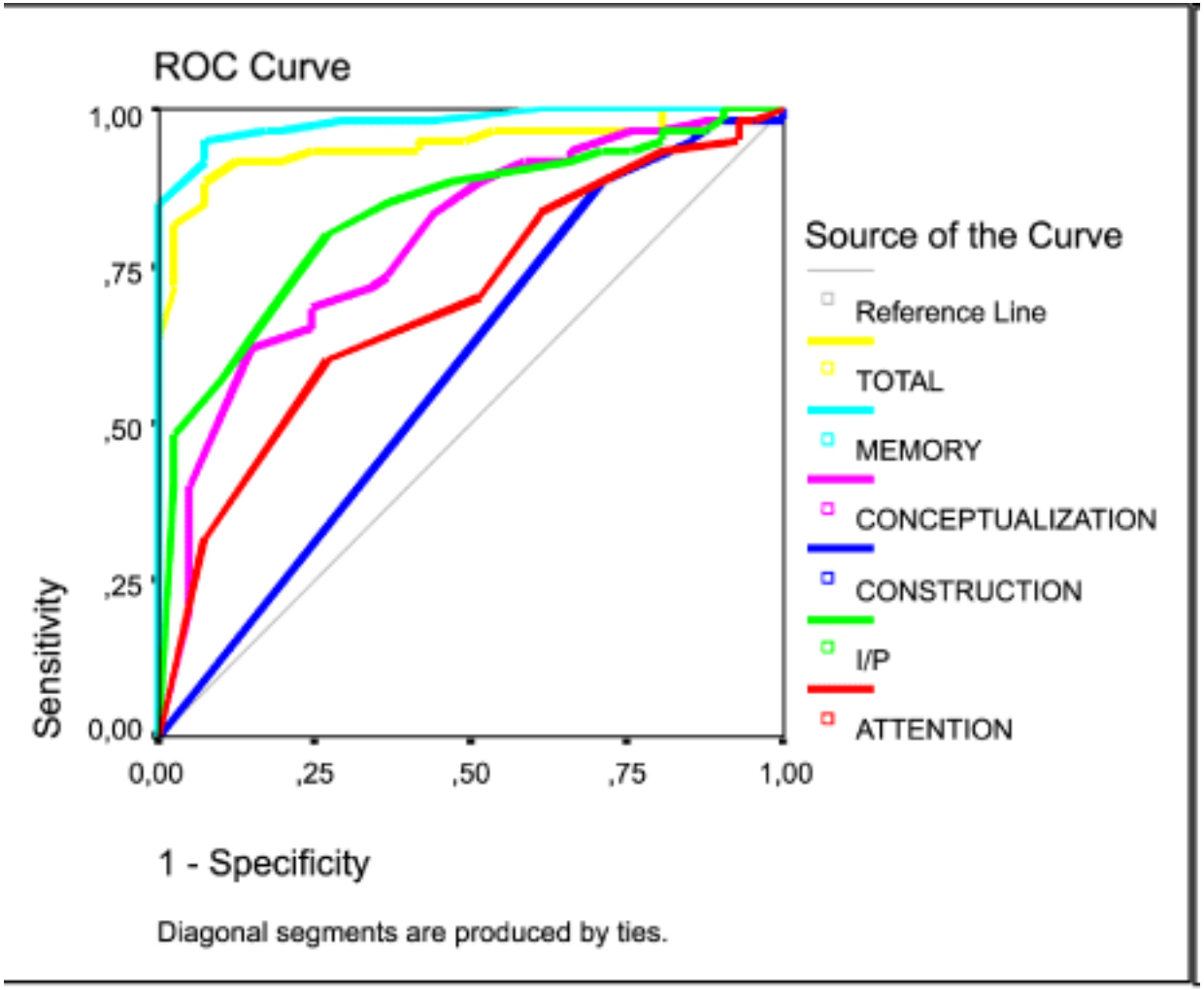


Fig 2. ROC curves (receiver operating characteristics) for the total and subscales of the DRS.

Arq. Neuro-Psiquiatr. vol.61 no.2B São Paulo June 2003

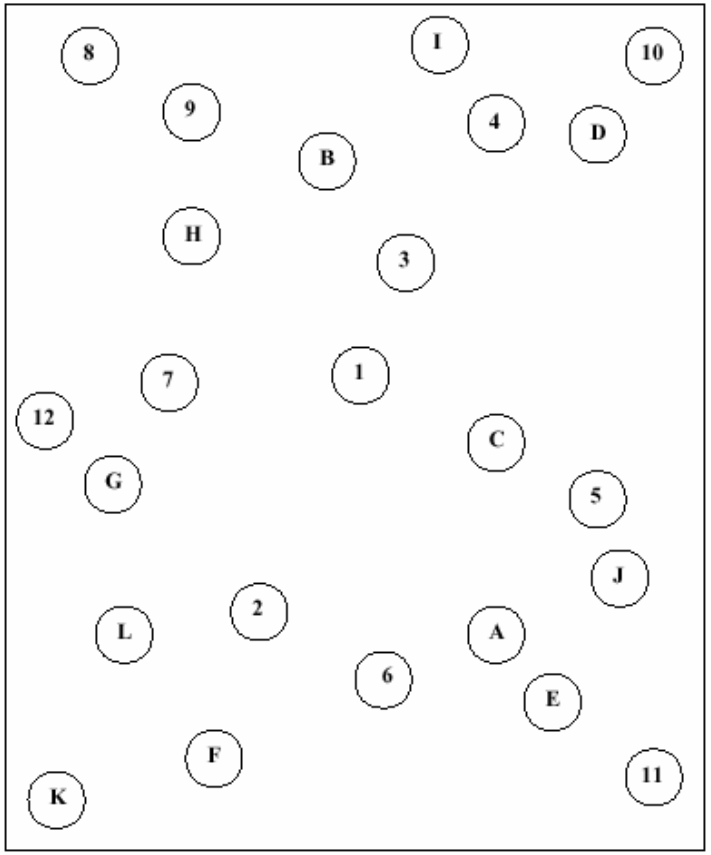
Mattis Dementia Rating Scale (DRS-2)

- Advantages
  - Sensitivity 78%; Specificity 86% for MCI
  - Ranks participation in cognitive domains by percentiles
  - Comes in Alternate Form to reduce test/retest bias
  - Not all portions rely on language (can test visual recognition memory)
- Disadvantages
  - Takes 20-30 minutes to complete
  - Not free
  - Takes a bit of practice

http://www4.parinc.com/Products/Product.aspx?ProductID=DRS-2

Trail-Making Test

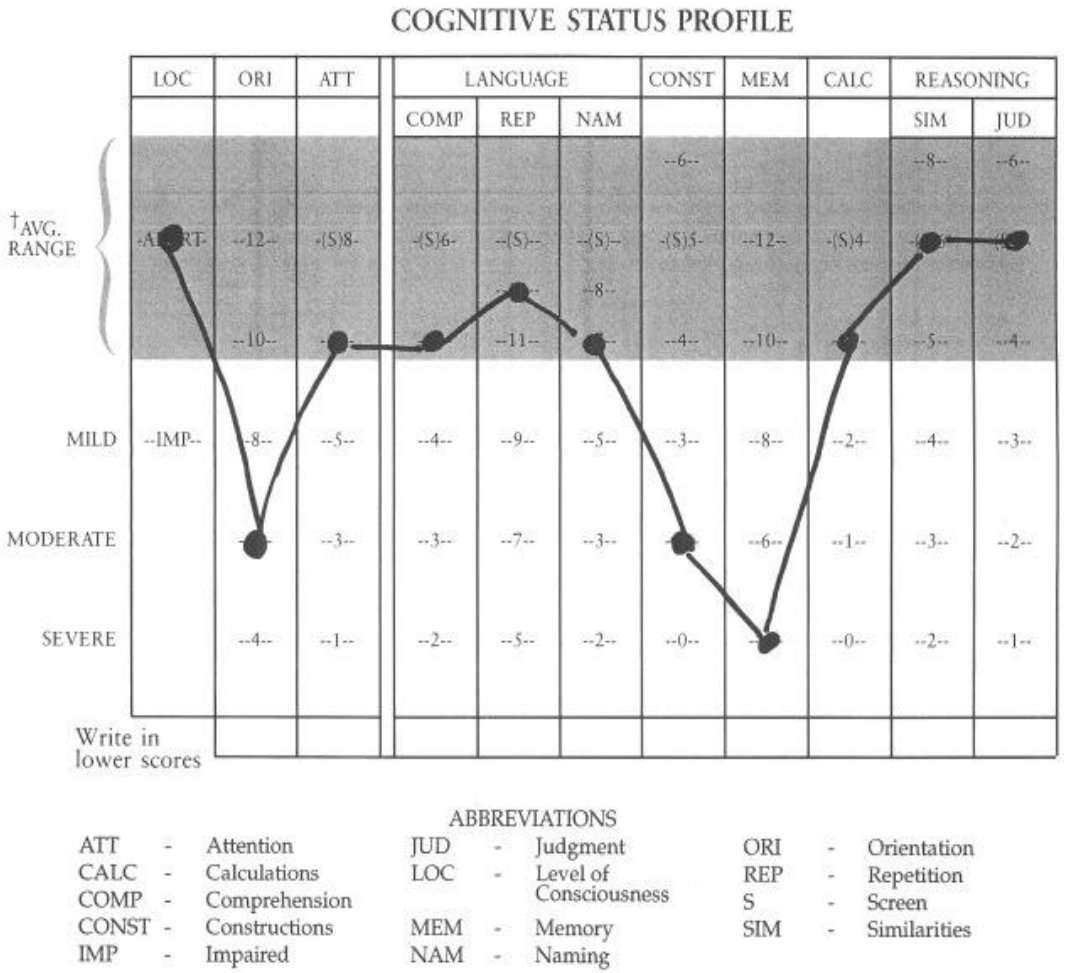
- Part A
  - Numbers 1→ 25
  - Ave 29 sec
- Part B
  - Numbers + letters
  - 1A → 13M
  - Ave 75 sec
- Advantages
  - Free
  - Often used by DMV
- Disadvantage
  - Difficult for patients to understand at times



www.granddriver.net/data/media/docs/UIowa_**trail**Making.pdf

Neurobehavioral Cognitive Status Exam

- COGNISTAT
- Tests language, constructions, memory, calculations, reasoning
- Now with a web-based version



Kiernan, R.J., et al; *Annals of Internal Medicine. 1987*; **107**: 481–485

Neurobehavioral Cognitive Status Exam

- Advantages
  - Good for visual/spatial
  - Good for executive functioning

- Disadvantages
  - Sensitivity better for Attention, Calculations, and Similarities
  - Specificity better for Constructions
  - Has a known ceiling effect (may not be sufficiently challenging)
  - Not free

Blessed Orientation-Memory-Concentration Test

- Condensed version (6 Qs) of the 26-item Information-Memory-Concentration Mental Status Test (IMCMST) devised by Blessed and colleagues
- 6 items:
  - What year is it now?
  - What month is it now?
  - Repeat this phrase after me: John Brown, 42 Market Street, Chicago
  - About what time is it? (within 1 hour)
  - Count backwards 20 to 1
  - Say the months in reverse order
  - Repeat the memory phrase

Source: Katzman R., et al. Validation of a short orientation-memory-concentration test of cognitive impairment. Am T Psychiatry 1983; 140:734-9.

Blessed Orientation-Memory-Concentration Test

- Advantages
  - Sensitive indicator of cognitive impairment
  - Takes 5 minutes
  - Is not affected by poor vision
- Disadvantages
  - Does not differentiate between dementia and delirium
  - Ethnicity bias; poor specificity (38% vs. 79%) among African American elders, resulting in higher percentages of false-positive for dementia

Yeo G, Gallagher-Thompson D. Ethnicity and the dementias. 2006. CRC Press

Scales to Assess Behaviors

Neuropsychiatric Inventory (NPI)

- Advantages
  - Measures intensity plus severity
  - Measures many symptom domains
  - There are forms for various settings
    - NH form 1 month, Q form for 1 week
- Disadvantages
  - Lots of questions

Craig D et al: Am J Geriatr Psych 13:460-8, 2005

Neuropsychiatric Inventory (NPI) scores

Symptom	Anytime during illness	Shown in last month
Delusions	50%	35%
Hallucinations	28	20
Agitation/Aggression	63	52
Depression	54	45
Anxiety	50	44
Apathy	76	75

Craig D et al: Am J Geriatr Psych 13:460-8, 2005

Neuropsychiatric Inventory (NPI) scores

Symptom	Anytime during illness	Shown in last month
Euphoria	17	23
Irritability	63	55
Aberrant Motor Behaviors	65	57
Sleep Disturbance	54	42
Appetite	64	54

Craig D et al: Am J Geriatr Psych 13:460-8, 2005

Mini Suffering State Exam (MSSE)

Suffering items

1. Not calm
2. Screams
3. Pain
4. Decubitus ulcers
5. Malnutrition
6. Eating disorders
7. Invasive action
8. Unstable medical condition
9. Suffering according to medical opinion
10. Suffering according to family opinion

Aminoff BZ, Gerontologie und Geriatrie 1999; Aminoff BZ, Purits E, Noy S, Adunsky A. Measuring the suffering of end-stage dementia: reliability and validity of the Mini-Suffering State Examination. Arch Gerontol Geriatr 2004;38(2):123-130.

Mini Suffering State Examination

1. Not calm	No	Yes Not calm: this is the 1st significant expression of the expression of the patient without verbal communication
2. Screams	No	Yes Screams: a sign of desperation and call for help that indicates suffering
3. Pain	No	Yes Pain: though difficult to recognize in end-stage dementia, a practical way is to watch facial expression while percussing, palpating etc
4. Decubitus ulcers	No	Yes
5. Malnutrition	No	Yes Malnutrition: as reflected by Tot Protein, Albumin, Cholesterol, Hemoglobin, etc

6. Eating Disorders	No	Yes Eating Disorder: refusal to eat, oropharyngeal dysphagia, anorexia, PEG
7. Invasive action	No	Yes Invasive action: frequent blood tests, intubation, catheterizations, constant fluid transfusions, hemodialysis, mechanical ventilation, etc
8. Unstable Medical Condition	No	Yes Unstable Medical Condition: acute medical status such as pneumonia, urosepsis, electrolyte imbalance
9. Suffering according to medical opinion	No	Yes
10. Suffering according to family opinion	No	Yes Suffering according to medical opinion: a subjective evaluation of “feeling sick” of the patient which is not a diagnosis, syndrome etc

MSSE score interpretation

- Low level of suffering 0-3
- Intermediate level of suffering 4-6
- High level of suffering 7-10

- High level of agreement on 7 items

- High level of disagreement on “not calm” and “suffering according to physician’s opinion”

Aminoff BZ, Gerontologie und Geriatrie 1999; Aminoff BZ, Purits E, Noy S, Adunsky A. Measuring the suffering of end-stage dementia: reliability and validity of the Mini-Suffering State Examination. Arch Gerontol Geriatr 2004;38(2):123-130.

The MSSE predicts mortality

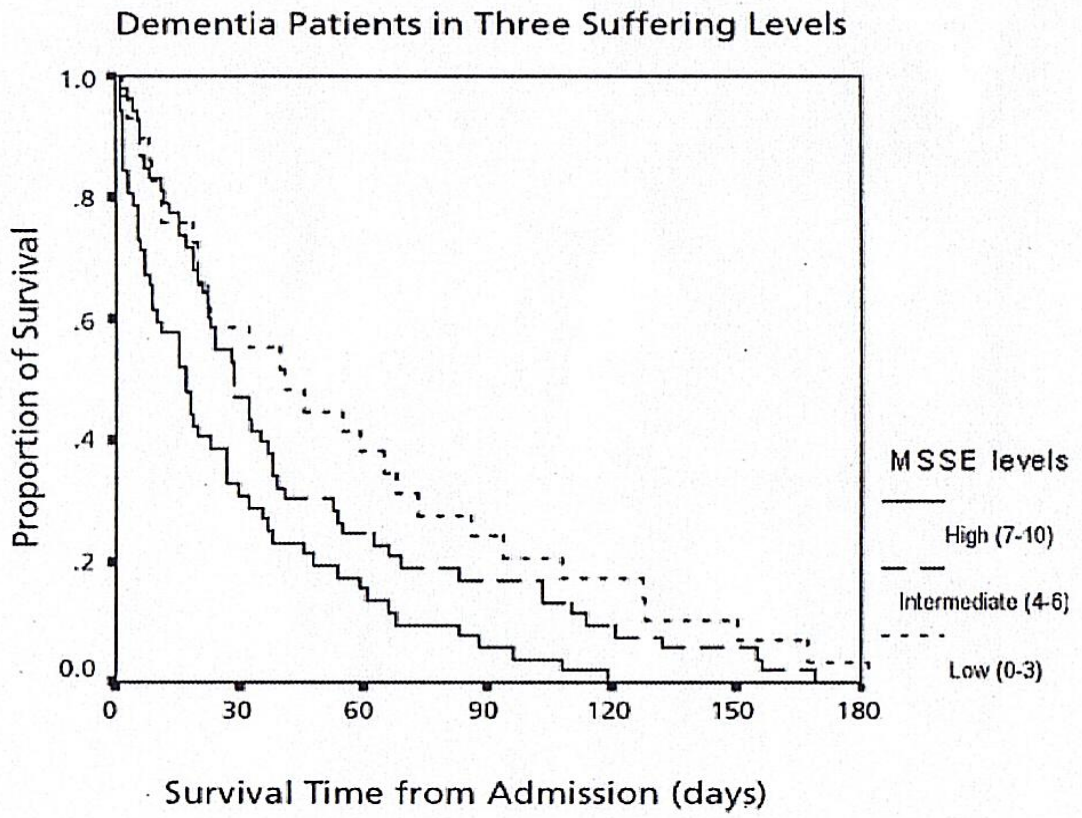


Figure 1. Kaplan–Meier 6-month survival curves for end-stage dementia patients in three suffering levels.

Aminoff BZ Adunsky A. Their last 6 months: suffering & survival of end stage dementia pts, 2006; Age and Aging. 597-601)

Mini Suffering State Exam (MSSE)

- Advantages
  - Quick
  - Free
  - Correlates to survival in End-stage Dementia
- Disadvantage
  - Not well known

Aminoff BZ, Gerontologie und Geriatrie 1999; Aminoff BZ, Purits E, Noy S, Adunsky A. Measuring the suffering of end-stage dementia: reliability and validity of the Mini-Suffering State Examination. Arch Gerontol Geriatr 2004;38(2):123-130.

Functional Assessment Staging of Alzheimer's Disease. (FAST)

- Evaluates function at moderate-severe stages of dementia, when cognitive scales are no longer useful
- Uses informants; caregivers, LTC staff, observation
- 7 stages:
    1. normal adult
    2. normal older adult
    3. early dementia
    4. mild dementia
    5. moderate dementia
    6. moderately severe dementia
    7. severe dementia

Functional Assessment Staging of Alzheimer's Disease. (FAST)

STAGE 6: Moderately Severe Dementia (MMSE = 5)

- Improperly putting on clothes without assistance or cueing
- Unable to bathe properly
- Unable to handle mechanics of toileting
- Urinary incontinence
- Fecal incontinence

STAGE 7: Severe Dementia (MMSE 0)

- Ability to speak limited to ~6 words per day
- Ambulatory ability lost
- Cannot sit up without assistance
- Loss of ability to hold up head independently
- Loss of ability to smile

FAST scoring for Dementia

- 7a < 6 meaningful words/day

- 7b 1 intelligible word in any average day

- 7c unable to walk without assistance

- FAST 7c – if reached in a stepwise fashion, 71% died within 6 months of enrollment
- FAST 7c but not 7a and then 7b, only 30% died within 6 months of enrollment with a median survival time of 10.7 months

- One retrospective study of 11,430 NH patients with Cognitive Performance Score of 5 or 6
  - FAST 7c PPV of only 38.5%, sensitivity of 22% in predicting death < 6 months

  - Mitchell et al in 2004: How to better predict mortality in end stage dementia in those newly admitted to NH *JAMA. 2010;304(17):1929-1935.*

Pain Assessment in Advanced Dementia (PAINAD) Scale

Table 3

The PAINAD Scale

	0	1	2	Score
Breathing (independent of vocalization)	Normal	Occasional labored breathing, short period of hyperventilation	Noisy labored breathing, long period of hyperventilation, Cheyne-stokes respirations,	
Negative vocalization	None	Occasional moan or groan, low level of speech with a negative or disapproving quality	Repeated trouble calling out, loud moaning or groaning, crying	
Facial expression	Smiling or inexpressive	Sad, frightened, frowning	Facial grimacing	
Body language	Relaxed	Tense, distressed pacing, fidgeting	Rigid, fists clenched, knees pulled up, pulling or pushing away, striking out	
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract, or reassure	
				Total

Source: Reference 21.

Warden V, Hurley AC, Volicer L. *J Am Med Dir Assoc*. 2003;4:9-15.

Pain Assessment in Advanced Dementia (PAINAD) Scale

- Advantages
  - Free
  - Training is also free
- Disadvantages
  - Useful for LTC
  - Not so useful for an office practice

Warden, V, Hurley AC, Volicer, V. (2003). Development and psychometric evaluation of the Pain Assessment in Advanced Dementia (PAINAD) Scale. *J Am Med Dir Assoc*, 4:9-15. Developed at the New England Geriatric Research Education & Clinical Center, Bedford VAMC, MA.

The Intensive Care Delirium Screening Checklist - ICDSC

**If patient not comatose/stuporous, then use the checklist

1. Drowsiness
   Mild to moderate stim needed for a response → score = 1
   Normal wakefulness or state where easily aroused → score = 0
   Hypervigilance/Exaggerated response to normal stimulation → score = 1

2. Inattention Difficulty following a conversation or instructions. Easily distracted by external stimuli. Difficulty in shifting focus; score = 1

3. Disorientation Any obvious mistake in time, place or person; score = 1

4. Hallucination-delusion-psychosis The unequivocal clinical manifestation of hallucination or of behavior probably due to hallucinations (e.g. trying to catch a non-existent object) or delusion. Gross impairment in reality testing; score = 1

ICDSC continued

5. Psychomotor agitation or retardation Hyperactivity requiring the use of additional sedative drugs or restraints in order to control potential danger to oneself or others (e.g. pulling out IV lines, hitting staff). Hypoactivity or clinically noticeable psychomotor slowing; score = 1

6. Inappropriate speech or mood Inappropriate, disorganized, or incoherent speech. Inappropriate display of emotion related to events or situation; score = 1

7. Sleep/wake cycle disturbance Sleeping less than 4 hours or waking up frequently at night (do not consider wakefulness initiated by medical staff or loud environment). Sleeping during most of the day; score = 1

8. Symptom fluctuation Fluctuation of the manifestation of any item or symptom over 24 hours (e.g. from day shift to night shift); score = 1 Total score (Possible range 0-8)

ICDSC

- Obvious manifestation of an item = 1 point; no manifestation of an item or no assessment possible = 0 point.

- Indicative of likely delirium score ≥4.

EXIT-25

- Advantages
  - Focuses on executive functioning
  - Designed to be administered by non-neuropsychiatrically trained
  - Correlates strongly to Wisconsin Card Sort
  - Correlates to ability to give informed consent
- Disadvantage
  - Takes 15-20 minutes to administer
  - Not as well known

http://www.dementia-ssessment.com.au/frontotemporal/EXIT25_Executive_Interview.pdf

Geriatric Depression Scale

- First depression screen for elderly population
- Developed by researchers at Stanford and the Palo Alto VA who wanted to emphasize differences in depressive symptoms in elders vs. younger patients
- Other depression screens relied too heavily on sleep symptoms and somatic complaints
- Language used in other depression scales led to false conclusions in elders
  - “Looking forward to the future” has a different meaning for elders at the end of their life span than for youngsters

Geriatric Depression Scale

- The GDS's Yes/No format was better than Zung's (1965) 4-point scale that required subtle discrimination
- The 30-item scale also posed a respondent burden
  - Shortened to 15-item scale, while still retaining decent psychometrics
  - Now a 5-item screen
    - (If ≥ 3 positive answers, → 15-item version)

GDS Psychometrics

- High internal consistency (the way the items hang together)
  - Split-half reliability coefficient of 0.94
- High test-retest reliability (consistency between clinicians)
  - Correlation of 0.85 ($p < 0.00l$)
- 84% sensitivity and a 95% specificity rate
  - Yes means yes, and no means no

GDS

- Advantages:
  - Comes in 27 flavors
  - FREE
- Disadvantages:
  - Used for screening, not designed for diagnosis
  - Not sensitive to change over time

The Hamilton Rating Scale for Depression (Ham-D)

- Most widely used scale in studies of depression; arguably the Gold Standard
- Emphasizes the somatic manifestations of depression; makes it particularly sensitive to changes experienced by patients who are severely ill

The Hamilton Rating Scale for Depression (Ham-D)

- Advantages:
  - Can be administered in 15-20 minutes
  - Contains descriptive anchors for each of the parameters that it measures
  - Useful gauge for treatment response
- Disadvantages:
  - Focuses heavily on somatic manifestations of depression → artificially high scores in geriatric patients

Case Studies

Alcoholic Dementia

- Diagnostic Evaluation
  - Motor – cerebellar symptoms
  - Attention – normal
  - Memory – impaired, confabulation
  - Language – relatively preserved
  - Visual/spatial – relatively preserved
  - Affect – relatively preserved
  - Executive – early and progressive

Alzheimer's Dementia

- Diagnostic Evaluation
  - Motor – impairment in later stages
  - Attention – normal in early stages
  - Memory – difficulty learning new info
  - Language – early impairment, ↓ fluency
  - Visual/spatial – early and progressive problems
  - Affect – apathy, personality change
  - Executive – early and progressive

Frontotemporal Dementias

- Diagnostic Evaluation
  - Motor – apraxic gait
  - Attention – normal
  - Memory – normal in early disease
  - Language - progressive nonfluent aphasia or semantic fluent aphasia
  - Visual/spatial – normal
  - Affect – apathy, disinhibitions, personality change
  - Executive – poor frontal lobe fctn, judgment

Vascular dementia

- Diagnostic Evaluation
  - Motor – balance deficits
  - Attention – impaired tracking
  - Memory – decreased retrieval
  - Language – depends on lesion
  - Visual/spatial – depends on lesion
  - Affect – behavioral changes, depression
  - Executive – prominent abnormality

Dementia with Lewy Bodies

- Diagnostic Evaluation
  - Motor – Parkinsonian, frequent falls
  - Attention – marked fluctuation
  - Memory – delayed retrieval first
  - Language - slowed
  - Visual/spatial – grossly abnormal
  - Perceptual – vivid visual hallucinations
  - Affect – normal
  - Executive – impaired – early

Parkinson's-related dementia

- Diagnostic Evaluation
  - Motor – tremor, stiffness, gait
  - Attention – normal
  - Memory – slowed
  - Language - slowed
  - Visual/spatial – normal
  - Affect – normal
  - Executive – slowed thought process

Major Depressive Disorder

- Diagnostic Evaluation
  - Motor – slowed, delayed response
  - Attention - impaired (think delirium)
  - Memory – impaired motivation, LTM>STM
  - Language – normal object recognition, repetition
  - Visual/spatial - normal
  - Affect - Sad, hopeless
  - Executive functioning - normal

Delirium

- Diagnostic Evaluation
  - Motor – hyper/hypoactivity
  - Attention – inattention with lucid intervals
  - Perception – visual hallucinations
  - Memory – grossly impaired
  - Language – comprehension impaired
  - Visual/spatial - impaired
  - Affect – labile, fearful
  - Executive functioning – grossly impaired

Subacute Delirium

- Diagnostic Evaluation
  - Motor – mild hyper/hypoactivity
  - Attention – inattention with lucid intervals
  - Perception – unimpaired
  - Memory – impaired
  - Language – unimpaired
  - Visual/spatial - unimpaired
  - Affect – mildly impaired
  - Executive functioning – impaired

Mania

- Diagnostic Evaluation
  - Motor – hyperactivity
  - Attention – severely impaired
  - Perception – likely impaired
  - Memory – severely impaired
  - Language – rapid, loud
  - Visual/spatial - unimpaired
  - Affect – labile
  - Executive functioning – perseveration, severely impaired

Dementia-related Depression

- Diagnostic Evaluation
  - Motor – variable
  - Attention – impaired tracking
  - Memory – decreased
  - Language – variable, often repetitive
  - Visual/spatial – variable
  - Affect – tearfulness, wish to be dead
  - Executive – variable

Assessing Pain in Dementia

- Diagnostic Evaluation
  - PAIN-D

- Q&D screen: *Calling out* is one of the most common indicators of pain in cognitively-impaired elders

- If nothing else is working, consider pain

Suffering in Dementia

- Diagnostic Evaluation
- MSSE – Mini Suffering State Exam

- FAST-AD