The 3 D's of Late Life: Depression, Dementia, and Delirium

Jason Wilbur, MD, FAAFP
Department of Family and Community Medicine
Department of Physician Associate Studies
Carver College of Medicine, University of Iowa

1

Disclosures

- I will not discuss pharmaceuticals, medical procedures, and/or devices that are investigational or unapproved for use by the FDA. If I do (and I won't), I will identify them as "not FDA approved" and remind you, as always, to use your clinical judgment in the diagnosis and treatment of patients.
- Within the past twelve months, I have not had any financial relationships with the manufacturers of health care products.

2

Objectives

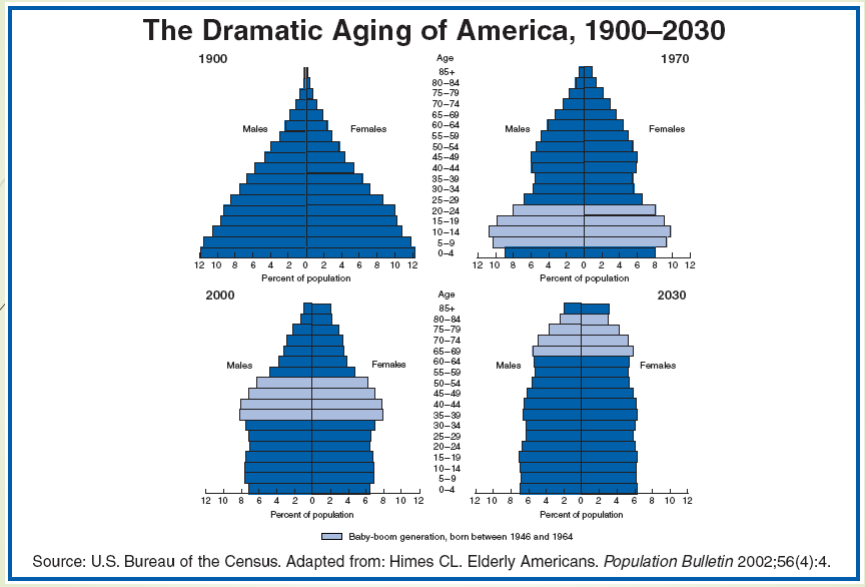
- Appreciate the importance of using a functional framework and of assessing overall function in the evaluation of an older patient.
- Know the diagnostic criteria for depression, dementia, and delirium.
- Describe the differences in typical presentations of depression, dementia, and delirium.
- Identify select assessment tools used in the evaluation of the patient suspected of experiencing depression, dementia, or delirium.
- Determine what next steps should be taken once depression, dementia, or delirium is identified in an older adult.

3

Aging Is Inevitable (but better than the alternative!)

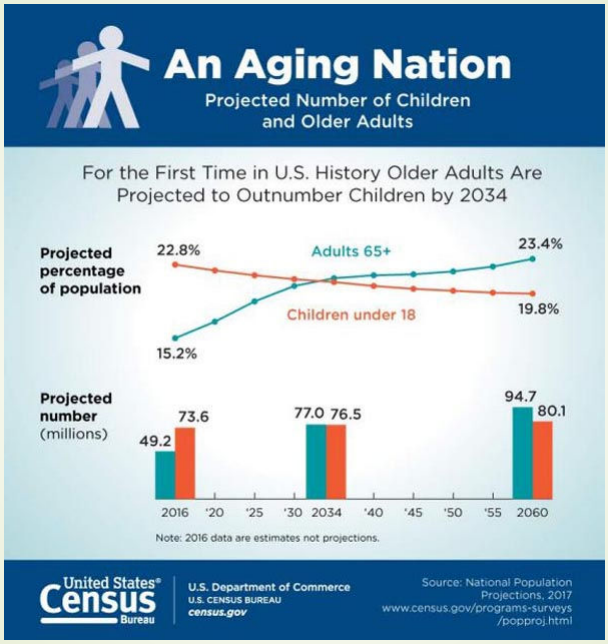
- Populations around the world are aging
- The proportion of older persons to younger persons is increasing in most countries
- Is this a problem?
  - I don't know!
- Is this new in human history?
  - YES!

4



Source: U.S. Bureau of the Census. Adapted from: Himes CL. Elderly Americans. *Population Bulletin* 2002;56(4):4.

5



6

Geriatric Medicine: Shifting the Frame

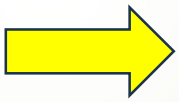
- A body of knowledge
- An approach to the patient
- A way of thinking

- Functional age > chronological age

7

Change Framing in Geriatrics

- Change from…
  - Describe symptoms
  - Diagnose disease
  - Treat acute condition
  - Return if no better



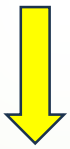
- Change to…
  - Describe functional effects
  - Determine what issues are limiting function
  - Engage with patient to progress to next best steps to improve function given patient/family goals

8

Change Framing in Geriatrics

From:

Health = Proper diagnosis + right treatment



To:

F = A + M + O (I & S)

9

Functional Evaluation Framework

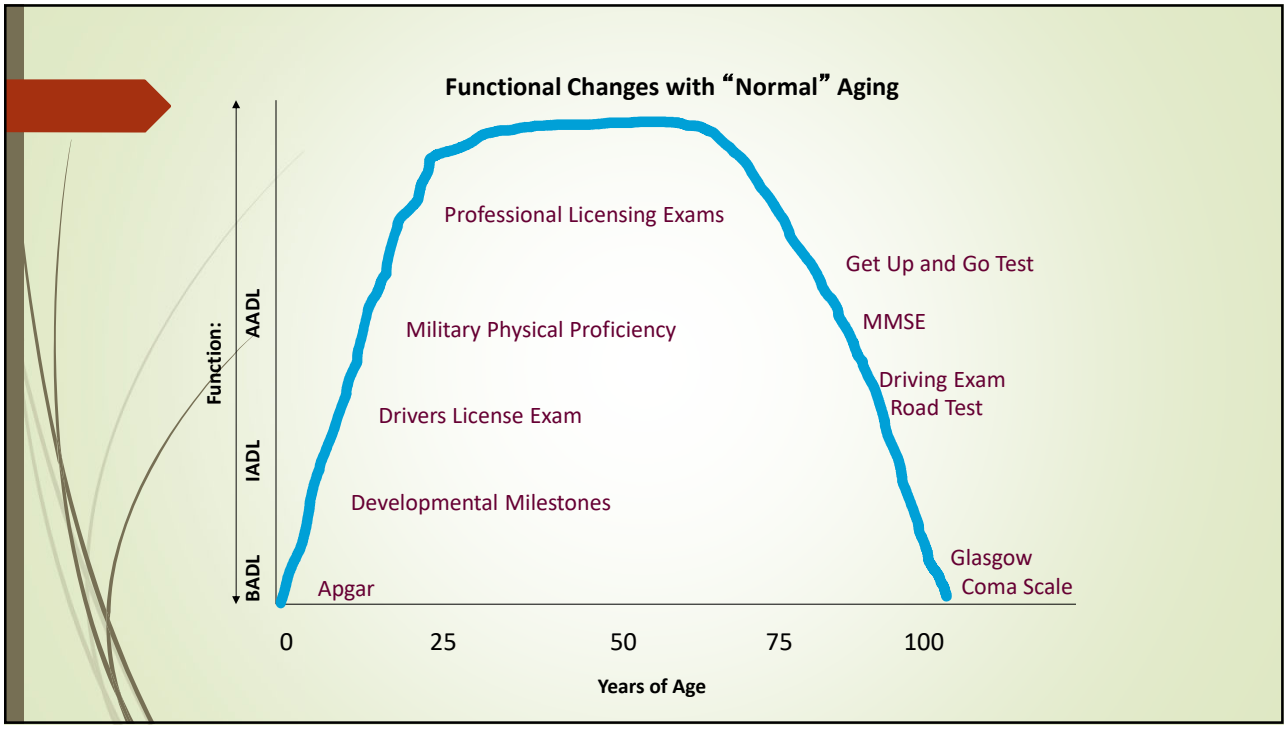
F = A + M + O (I & S)

F = functional status
A = abilities
M = motivation
O = opportunities
I = individual
S = societal

10

- Functional framework becomes VITAL in approaching the older patient suspected of having depression, dementia, or delirium.
- Goals will be individualized:
  - "Cure" patient and return to baseline
  - Improve the patient's function
  - Help caregivers deal with new level of function

11



12

How do we measure function in the office?

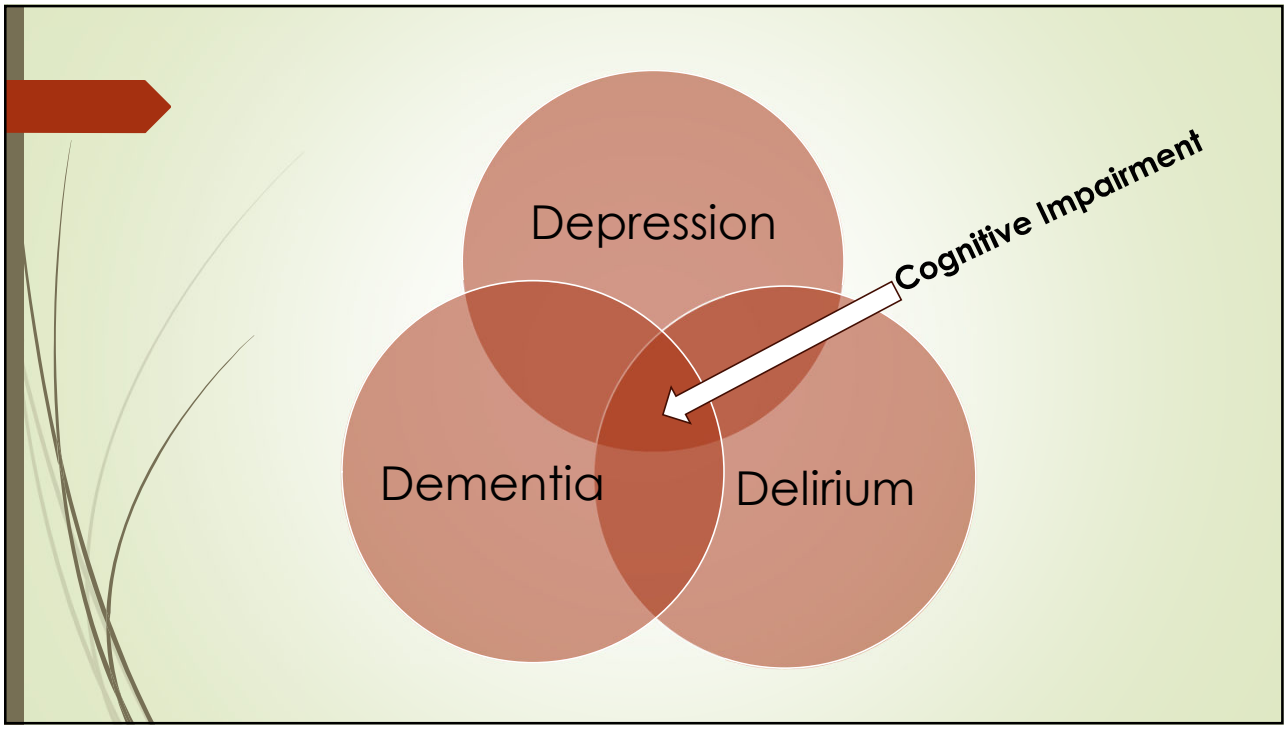
- Start with the history
- There's more to do after that, but we'll save if for another talk!
- Inquire about BADLs (to the right) and IADLs (driving, shopping, money management, etc)



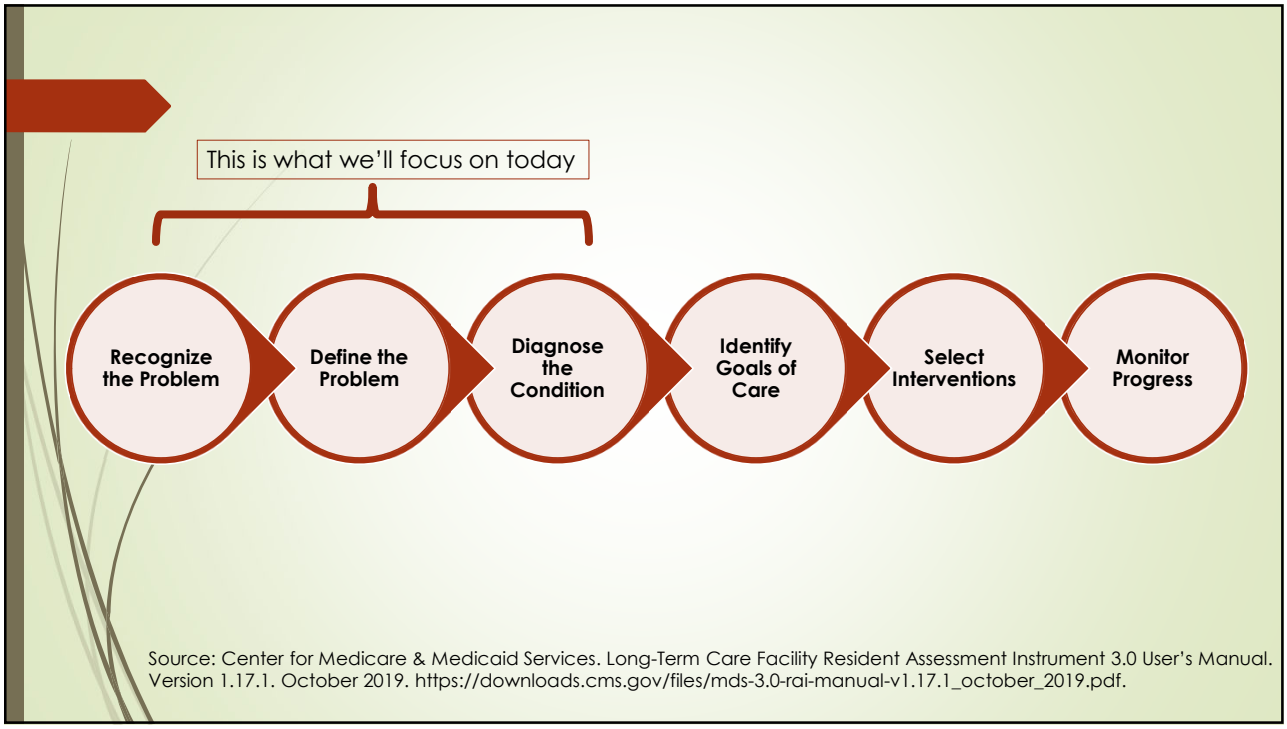
13

Overview of the 3 D's

14


Depression
Cognitive Impairment
Dementia
Delirium

15

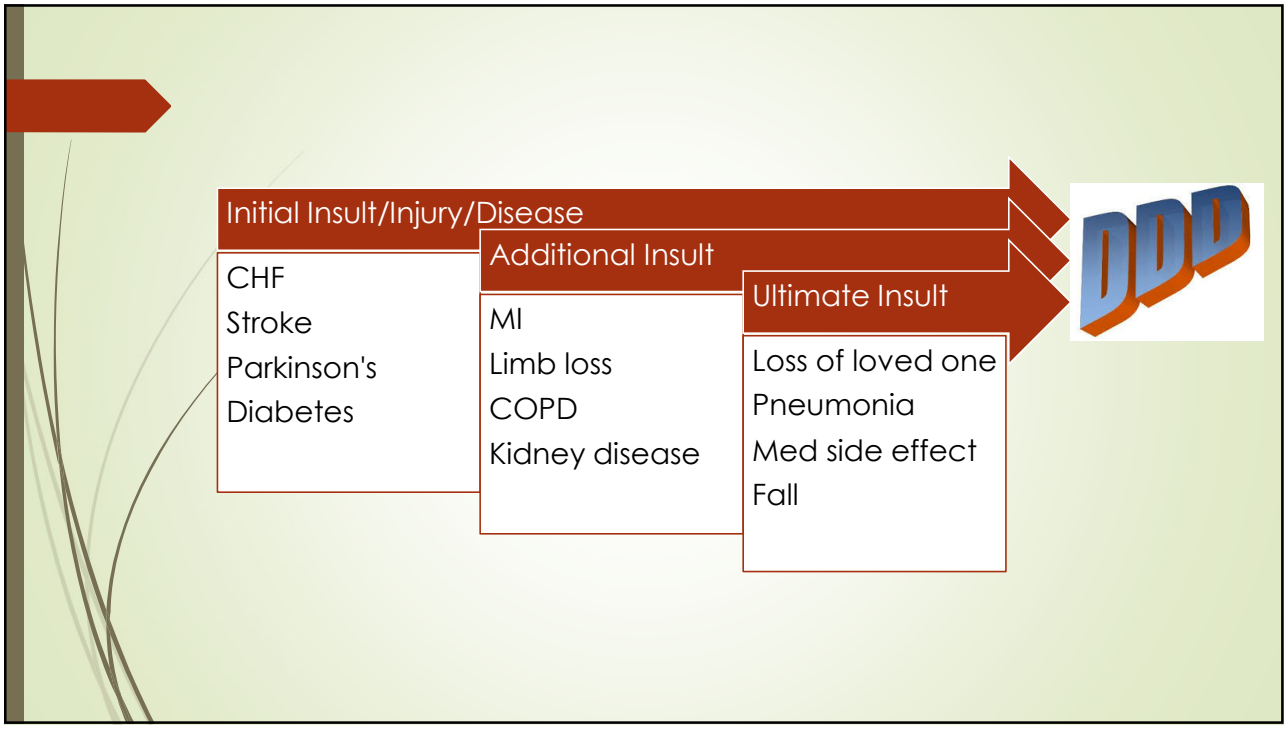

This is what we'll focus on today
Recognize the Problem
Define the Problem
Diagnose the Condition
Identify Goals of Care
Select Interventions
Monitor Progress
Source: Center for Medicare & Medicaid Services. Long-Term Care Facility Resident Assessment Instrument 3.0 User's Manual. Version 1.17.1. October 2019. https://downloads.cms.gov/files/mds-3.0-rai-manual-v1.17.1_october_2019.pdf.

16

The 3 D's are Geriatric Syndromes

- What's a "geriatric syndrome?"
- A specific phenomenology arising from one of several disease processes or a combination of underlying diseases (multifactorial)
- A final common pathway recognizable as a clinical entity
- Other examples in geriatric medicine: frailty, falls, incontinence.

17



18

Case

You are seeing a new patient. He is a 72-year-old retired factory worker brought to clinic by his daughter. He lives with his daughter and her family since his wife died 2 years ago. Daughter is concerned about his poor appetite, trouble recalling conversations, and recent falls. Patient has restricted his activities to staying in the apartment. Patient himself reports no concerns. He had not seen a clinician for over 5 years until he was hospitalized for pneumonia one month ago. Since that time, his daughter reports that his memory is worse and he is often agitated at bedtime.

19



Recognize the Problem

20

Define the Problem



21

3D's History

- Personal h/o depression, anxiety, other mental health issues?
- Personal history of dementia?
- Agitation or excessive somnolence or waxing/waning consciousness during hospitalization?
- Substance use history?
- Use of psych meds?
- Any recent med changes, especially centrally acting drugs?
- FH of dementia, depression, other mental health issues?
- Any changes in liver or kidney function or known diseases that might affect med metabolism?
- Psych consults or mental health history?
- Probably other things you could do!

22

Here comes some BORING stuff…

…but we need to know it.

Define the Problem

23

UNIVERSITY OF IOWA HEALTH CARE

DSM-5 Criteria for Major Depression

- **At least 5 of the following, of which (1) or (2) must be present for 2 weeks or more:**
  1. **Depressed mood**
  2. **Anhedonia**
  3. **Weight loss / appetite loss**
  4. **Insomnia or hypersomnia**
  5. **Psychomotor agitation or retardation**
  6. **Fatigue or loss of energy**
  7. **Feelings of worthlessness / inappropriate guilt**
  8. **Decreased concentration / indecisiveness / inattention**
  9. **Recurrent thoughts of death, suicidal ideation or suicide plan or attempt**
- **The symptoms cause distress and/or impaired functioning**
- **Symptoms not due to underlying medical condition or better explained by another psychiatric condition (e.g., bipolar, schizoaffective, etc)**

24

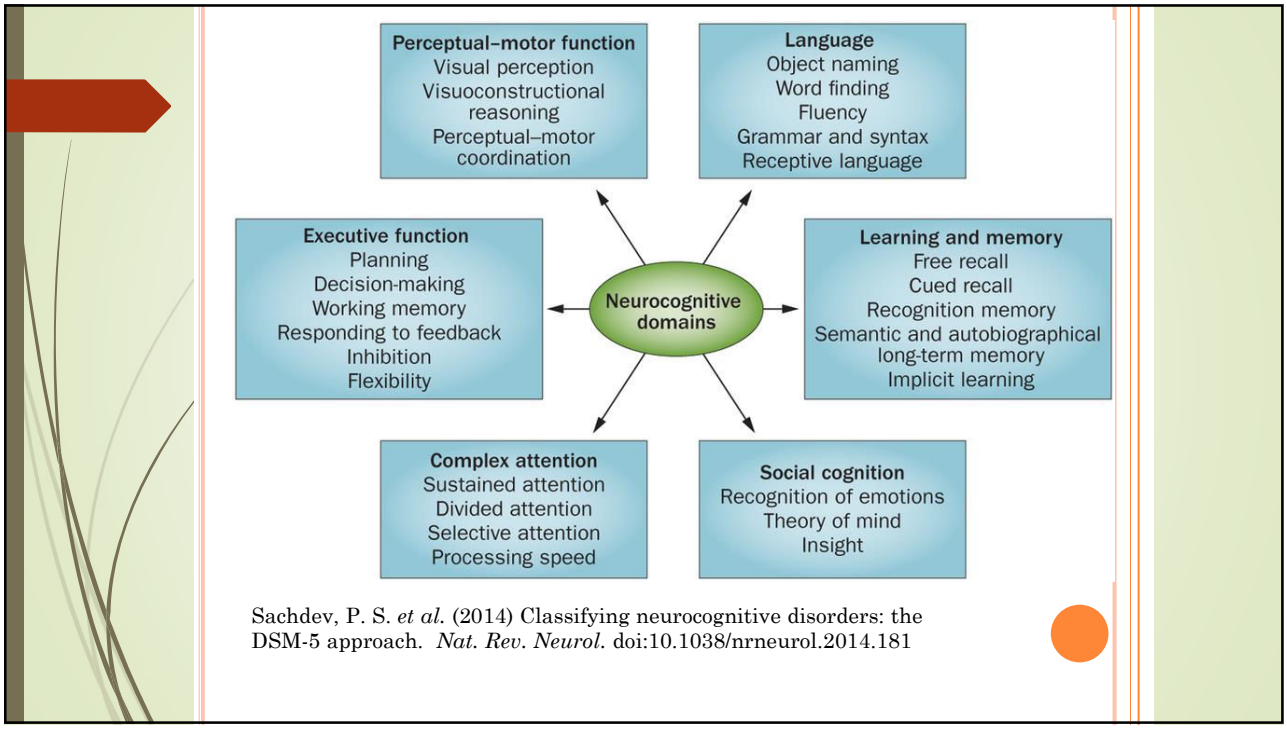
Dementia: A DSM-5 Neurocognitive Disorder

- Insidious onset and progressive
- Major NCD: 2 or more cognitive domains impaired PLUS 1 or more impaired IADLs
- Mild NCD: 1 or more cognitive domains impaired; IADLs intact
- Not due to delirium or another mental disorder

- Cognitive domains:
  - Complex attention
  - Executive function
  - Learning and memory
  - Language
  - Perceptual – Motor
  - Social cognition

CHANGE from DSM-IV: **No** requirement for memory loss

25



Sachdev, P. S. *et al.* (2014) Classifying neurocognitive disorders: the DSM-5 approach. *Nat. Rev. Neurol.* doi:10.1038/nrneurol.2014.181

26

Delirium: A DSM-5 Neurocognitive Disorder

- **Rapid** and abrupt onset of:
  - Impaired attention
  - Lack of awareness of environment
- **Change** in at least ONE cognitive domain:
  - Memory
  - Orientation
  - Language
  - Perception
- Associated with:
  - Change in sleep-wake cycle
  - Change in emotional states
  - Worsening behavior in evenings

- May be due to:
  - General medical condition
  - Substance withdrawal
  - Substance intoxication
  - Multiple etiologies
  - Other

27

Table 1. Characteristics of depression, delirium and dementia

	Depression	Delirium	Dementia
Onset	Weeks to months	Hours to days	Months to years
Mood	Low/apathetic	Fluctuates	Fluctuates
Course	Chronic; responds to treatment.	Acute; responds to treatment	Chronic, with deterioration over time
Self-Awareness	Likely to be concerned about memory impairment	May be aware of changes in cognition; fluctuates	Likely to hide or be unaware of cognitive deficits
Activities of Daily Living (ADLs)	May neglect basic self-care	May be intact or impaired	May be intact early, impaired as disease progresses
Instrumental Activities of Daily Living (IADLs)	May be intact or impaired	May be intact or impaired	May be intact early, impaired before ADLs as disease progresses

Clinician's Guide to Psychiatric Care. New York, NY: Oxford University Press; 2008

28

Case: Next Steps?

- Gather more history - From patient and caregivers
- Use **assessment tools** to guide further evaluation and initial treatment decisions
- Perform a focused physical exam
  - Neuro exam
  - Physical function
- Targeted testing
  - TSH? CBC? BMP? Neuroimaging? What else?
- Involve the team: therapist, social work, nursing, pharmacist, FAMILY & caregivers

29

Depression

Hallmark: Altered level of mood/affect

30

Screening tools for late-life depression for use in primary care

	Sens. %	Spec. %	Inpatient	Outpatient	Physically ill	Cognitively Impaired
2 question screen	97	67	?	Yes	?	No
Geriatric Depression Scale	94	81	Yes	Yes	Yes	?
PHQ-9	88	88	?	Yes	Yes	?
Cornell Scale for Depression inDementia -19	90	75	Yes	Yes	?	Yes

31

Geriatric Depression Scale

Date: 2016-08-12 Patient Name: TEST, TEST

	Yes	No	
1. Are you basically satisfied with your life?	0	1	
2. Have you dropped many of your activities and interests?	1	0	
3. Do you feel that your life is empty?	1	0	
4. Do you often get bored?	1	0	
5. Are you are you in good spirits most of the time?	0	1	
6. Are you afraid something bad is going to happen to you?	1	0	
7. Do you feel happy most of the time?	0	1	
8. Do you often feel helpless?	1	0	
9. Do you prefer to stay at home, rather than going out and doing new things?	1	0	
10. Do you feel you have more problems with memory than most?	1	0	
11. Do you think it is wonderful to be alive?	0	1	
12. Do you feel pretty worthless the way you are now?	1	0	
13. Do you feel full of energy?	0	1	
14. Do you feel your situation is hopeless?	1	0	
15. Do you think that most people are better off than you are?	1	0	
Total (over 5 indicates depression)			

32

Cornell Scale for Depression in Dementia

Ratings should be based on symptoms and signs occurring during the week before interview. No score should be given if symptoms result from physical disability or illness.

SCORING SYSTEM
a = Unable to evaluate 0 = Absent 1 = Mild to intermittent 2 = Severe

A. MOOD-RELATED SIGNS				
1. Anxiety: anxious expression, rumination, worrying	a	0	1	2
2. Sadness: sad expression, sad voice, tearfulness	a	0	1	2
3. Lack of reaction to present events	a	0	1	2
4. Irritability: annoyed, short tempered	a	0	1	2
B. BEHAVIORAL DISTURBANCE				
5. Agitation: restlessness, hand wringing, hair pulling	a	0	1	2
6. Retardation: slow movements, slow speech, slow reactions	a	0	1	2
7. Multiple physical complaints (score 0 if gastrointestinal symptoms only)	a	0	1	2
8. Loss of interest: less involved in usual activities (score only if change occurred acutely, i.e., in less than one month)	a	0	1	2
C. PHYSICAL SIGNS				
9. Appetite loss: eating less than usual	a	0	1	2
10. Weight loss: (score 2 if greater than 5 pounds in one month)	a	0	1	2
11. Lack of energy: fatigues easily, unable to sustain activities	a	0	1	2
D. CYCLIC FUNCTIONS				
12. Diurnal variation of mood: symptoms worse in the morning	a	0	1	2
13. Difficulty falling asleep: later than usual for this individual	a	0	1	2
14. Multiple awakening during sleep	a	0	1	2
15. Early morning awakening: earlier than usual for this individual	a	0	1	2
E. IDEATIONAL DISTURBANCE				
16. Suicidal: feels life is not worth living	a	0	1	2
17. Poor self-esteem: self-blame, self-depreciation, feelings of failure	a	0	1	2
18. Pessimism: anticipation of the worst	a	0	1	2
19. Mood congruent delusions: delusions of poverty, illness, or loss	a	0	1	2

SCORE _____
Score greater than 12 = Probable depression

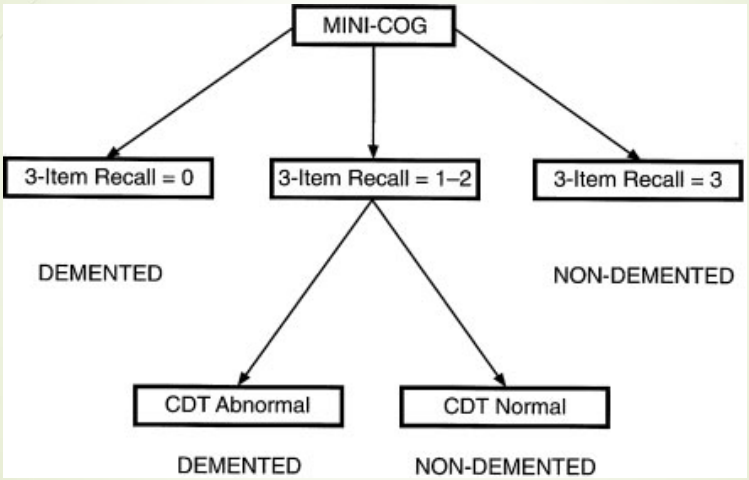
33

Dementia

Hallmark: Altered level of cognition

34

Mini-Cog Scoring Algorithm



(Reproduced from Borson et al., 2000, with permission from John Wiley & Sons Ltd.)

35

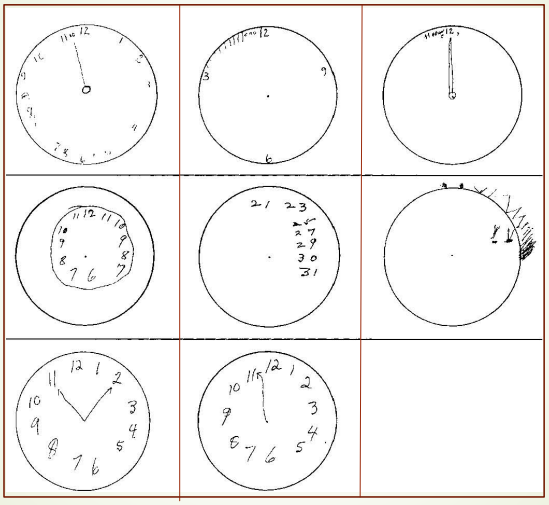
Memory: Mini Cog

- 3 item recall screen
- LR for dementia:
- 3 = 0.06
- 2 = 0.5
- < 2 = 3.1

- Clock drawing
  - LR for dementia:
    - normal = 0.2
    - almost nl. = 0.8
    - abnormal = 24
  - Mini Cog:
    - 76% sensitivity
    - 89% specificity

36

Clock-Drawing: Sensitive to Deterioration in Dementia



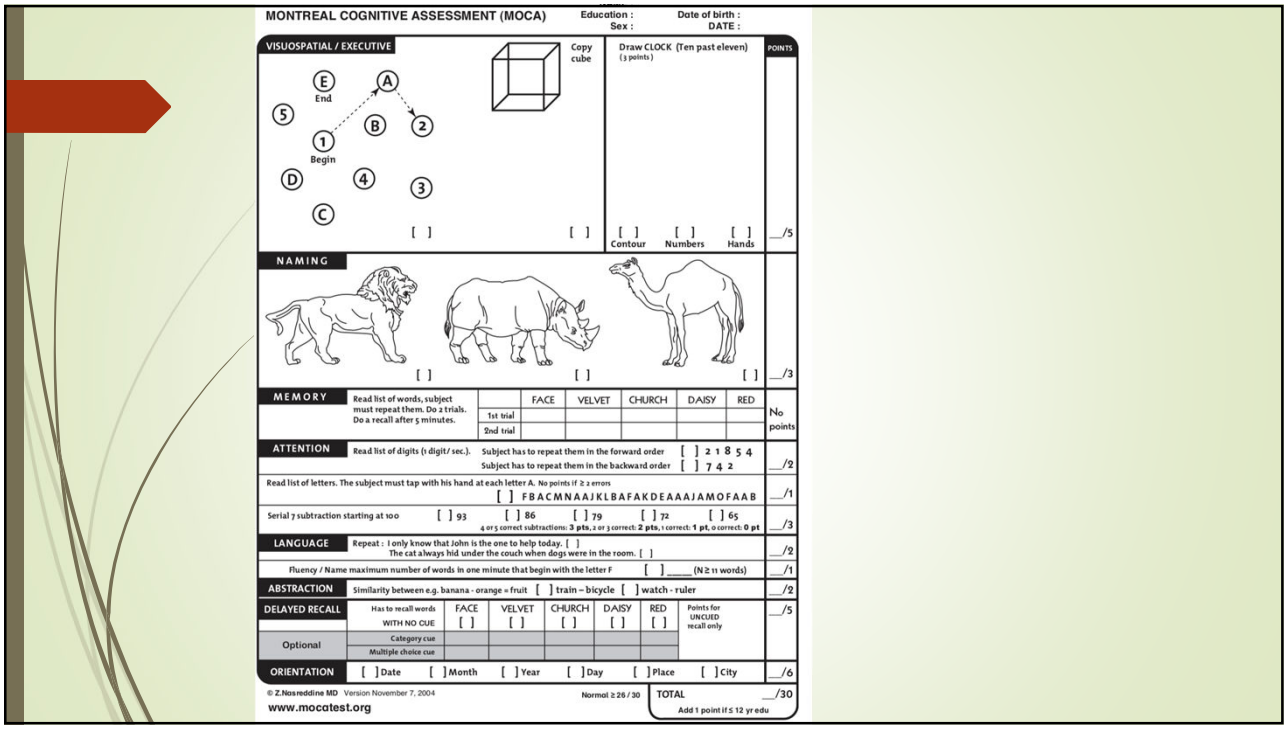
(Reproduced from Shulman, 2000, with permission from John Wiley & Sons Ltd.)

37

Montreal Cognitive Assessment

- Validated in multiple languages and cultures
- 30-point scale covering multiple domains (compare to MMSE)
- Sensitive for mild cognitive impairment
  - Sensitivity 80-100%; Specificity 50-76%
- Practicing clinicians are required to complete a 1-hour learning module
  - | Training & Certification

38



MONTREAL COGNITIVE ASSESSMENT (MOCA)

Education :
Sex :

Date of birth :
DATE :

VISUOSPATIAL / EXECUTIVE — Copy cube — Draw CLOCK (Ten past eleven) (3 points) — POINTS

E End, A, 5, B, 2, 1 Begin, D, 4, 3, C

[ ] [ ] [ ] Contour [ ] Numbers [ ] Hands — /5

NAMING

[ ] [ ] [ ] — /3

MEMORY — Read list of words, subject must repeat them. Do 2 trials. Do a recall after 5 minutes.

	FACE	VELVET	CHURCH	DAISY	RED
1st trial					
2nd trial					

No points

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

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

Points for UNCUED recall only — /5

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

© Z.Nasreddine MD Version November 7, 2004

www.mocatest.org

Normal ≥ 26 / 30

TOTAL /30

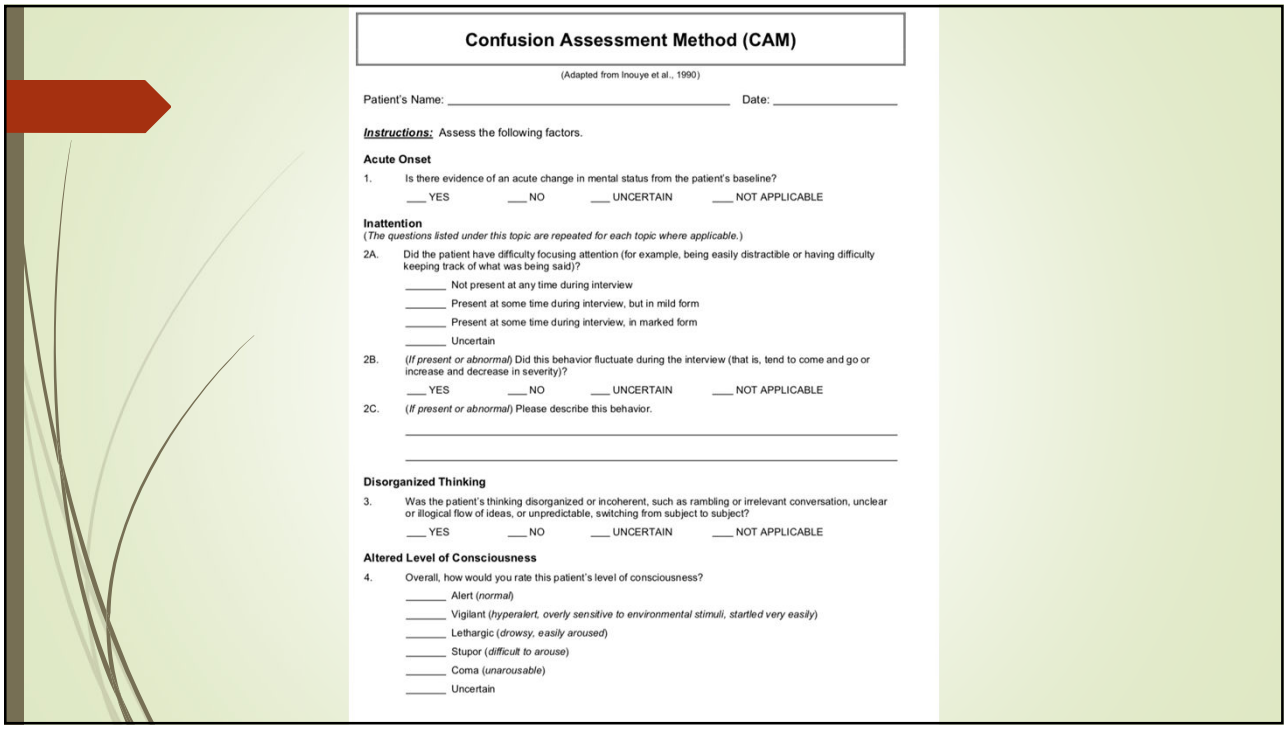
Add 1 point if ≤ 12 yr edu

39

Delirium

Hallmark: Altered level of consciousness

40



Confusion Assessment Method (CAM)

(Adapted from Inouye et al., 1990)

Patient's Name: _____ Date: _____

Instructions: Assess the following factors.

Acute Onset

1. Is there evidence of an acute change in mental status from the patient's baseline?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Inattention

(*The questions listed under this topic are repeated for each topic where applicable.*)

2A. Did the patient have difficulty focusing attention (for example, being easily distractible or having difficulty keeping track of what was being said)?

_____ Not present at any time during interview

_____ Present at some time during interview, but in mild form

_____ Present at some time during interview, in marked form

_____ Uncertain

2B. (*If present or abnormal*) Did this behavior fluctuate during the interview (that is, tend to come and go or increase and decrease in severity)?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

2C. (*If present or abnormal*) Please describe this behavior.

_____

_____

Disorganized Thinking

3. Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable, switching from subject to subject?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Altered Level of Consciousness

4. Overall, how would you rate this patient's level of consciousness?

_____ Alert (*normal*)

_____ Vigilant (*hyperalert, overly sensitive to environmental stimuli, startled very easily*)

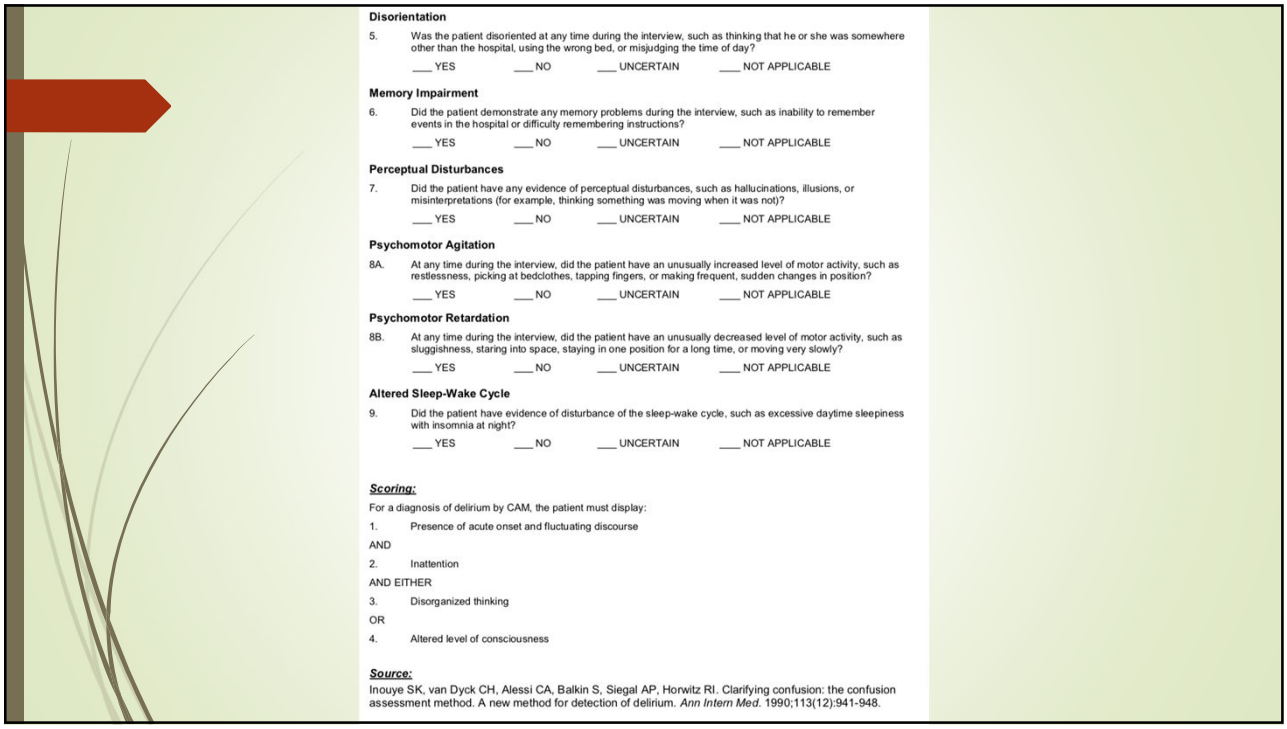
_____ Lethargic (*drowsy, easily aroused*)

_____ Stupor (*difficult to arouse*)

_____ Coma (*unarousable*)

_____ Uncertain

41



Disorientation

5. Was the patient disoriented at any time during the interview, such as thinking that he or she was somewhere other than the hospital, using the wrong bed, or misjudging the time of day?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Memory Impairment

6. Did the patient demonstrate any memory problems during the interview, such as inability to remember events in the hospital or difficulty remembering instructions?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Perceptual Disturbances

7. Did the patient have any evidence of perceptual disturbances, such as hallucinations, illusions, or misinterpretations (for example, thinking something was moving when it was not)?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Psychomotor Agitation

8A. At any time during the interview, did the patient have an unusually increased level of motor activity, such as restlessness, picking at bedclothes, tapping fingers, or making frequent, sudden changes in position?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Psychomotor Retardation

8B. At any time during the interview, did the patient have an unusually decreased level of motor activity, such as sluggishness, staring into space, staying in one position for a long time, or moving very slowly?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Altered Sleep-Wake Cycle

9. Did the patient have evidence of disturbance of the sleep-wake cycle, such as excessive daytime sleepiness with insomnia at night?

___ YES ___ NO ___ UNCERTAIN ___ NOT APPLICABLE

Scoring:

For a diagnosis of delirium by CAM, the patient must display:

1. Presence of acute onset and fluctuating discourse

AND

2. Inattention

AND EITHER

3. Disorganized thinking

OR

4. Altered level of consciousness

Source:

Inouye SK, van Dyck CH, Alessi CA, Balkin S, Siegal AP, Horwitz RI. Clarifying confusion: the confusion assessment method. A new method for detection of delirium. *Ann Intern Med*. 1990;113(12):941-948.

42

Confusion Assessment Method (CAM) Diagnostic Algorithm

Feature 1: Acute Onset and Fluctuating Course

This feature is usually obtained from a family member or nurse and is shown by positive responses to the following questions: Is there evidence of an acute change in mental status from the patient's baseline? Did the (abnormal) behavior fluctuate during the day; that is, did it tend to come and go, or increase and decrease in severity?

Feature 2: Inattention

This feature is shown by a positive response to the following question: Did the patient have difficulty focusing attention; for example, being easily distractible, or having difficulty keeping track of what was being said?

Feature 3: Disorganized Thinking

This feature is shown by a positive response to the following question: Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?

Feature 4: Altered Level of Consciousness

This feature is shown by any answer other than "alert" to the following question: Overall, how would you rate this patient's level of consciousness? (alert [normal], vigilant [hyperalert], lethargic [drowsy, easily aroused], stupor [difficult to arouse], or coma [unarousable])

Source:

Inouye SK, van Dyck CH, Alessi CA, Balkin S, Siegal AP, Horwitz RI. Clarifying confusion: the confusion assessment method. A new method for detection of delirium. *Ann Intern Med.* 1990;113(12):941-948.

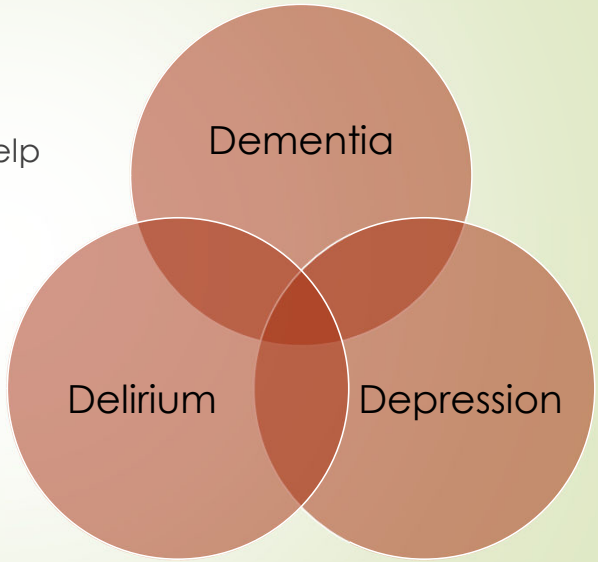
43

Case: Wrap-Up

Let's say that this patient is found to:

- Have no other history to help us narrow the dx
- Have a normal exam
- Negative CAM
- Score 6/15 on his GDS
- Score 18/30 on his MOCA
- Have unremarkable CBC, TSH, A1c, B12, CMP

What is your next step?



44



45