Frontline Tools:

Delirium, Dementia, & Depression in Older Adults

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VA HEALTH CARE Defining EXCELLENCE in the 21st Century

Disclosure

- Nothing to disclose
- The views and opinions in this presentation are those of the presenter and they do not necessarily reflect, and should not be taken as, official policy of the U.S. Department of Veterans Affairs or the University of Washington.

Learning Objectives

- Characterize dementia, delirium, and depression
- Identify key similarities and differences between these clinical syndromes
- Recognize warning signs and initiate diagnostic work-up
- Utilize data to guide treatment and care planning

Clinical Relevance: The Aging Population

- In 2020, the oldest baby boomers are turning age 74
  - By 2029, all baby boomers will be at least 65 years old
- The number of Americans age 65+ is expected to grow from 53 million in 2018 to 88 million by 2050
- Older adults constitute:
  - 26% percent of physician office visits
  - A third of all hospital stays and of all prescriptions
  - Almost 40% of all emergency medical responses
  - 90% of nursing home residents

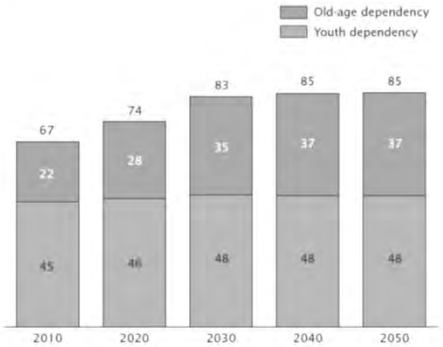
Facts & Figures: Alzheimer's Association

THE NEXT FOUR DECADES

The Older Population in the United States: 2010 to 2050

Population Estimates and Projections

Figure 2.
Dependency Ratios for the United States: 2010 to 2050



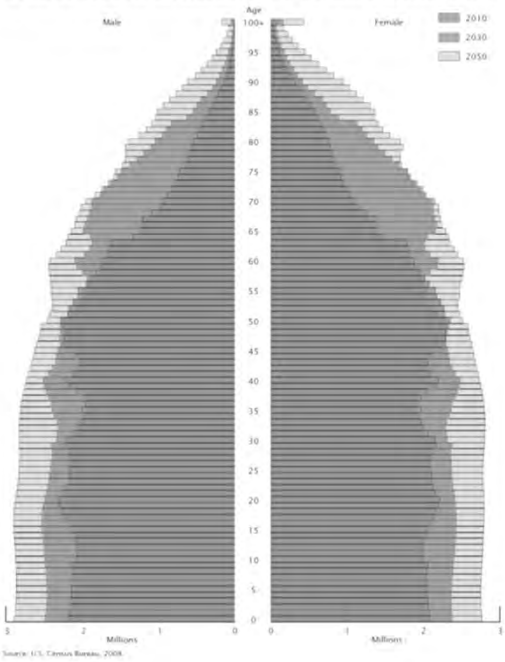
Note: Total dependency = ((Population under age 20 + Population aged 65 years and over) / (Population aged 20 to 64 years)) * 100.

Old-age dependency = (Population aged 65 years and over / Population aged 20 to 64 years) * 100.

Youth dependency = (Population under age 20 / Population aged 20 to 64 years) * 100.

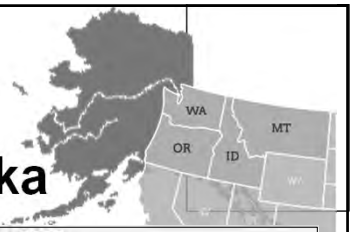
Source: U.S. Census Bureau, 2008.

Figure 1.
Age and Sex Structure of the Population for the United States: 2010, 2030, and 2050



Source: U.S. Census Bureau, 2008.

Pacific Northwest and Alaska



State Projections of Population Aged 65 and over: July 1, 2005 to 2030
Number of Persons 65 and over

State	Census 2000	Projection 2005	Projection 2010	Projection 2015	Projection 2020	Projection 2025	Projection 2030
US	**34,991,753**	**36,695,904**	**40,243,713**	**46,790,727**	**54,631,891**	**63,523,732**	**71,453,471**
AK	35,699	43,999	56,548	75,023	96,388	115,135	127,202
ID	145,916	158,646	181,416	220,113	269,439	320,205	361,033
MT	120,949	129,243	144,961	173,778	211,783	247,769	269,558
OR	438,177	448,765	494,328	590,784	704,866	805,717	881,957
WA	662,148	702,517	795,528	965,506	1,168,199	1,380,872	1,563,901

Data Source: File 2. Interim State Projections of Population for Five-Year Age Groups and Selected Age Groups by Sex: July 1, 2004 to 2030

U.S.Census Bureau, Population Division, Interim State Population Projections, 2005.

Table compiled by the US Administration on Aging

How to provide care for this increasing and changing demographic?

- Geriatric specialists
- Primary Care Providers (PCPs)
- PACT – Patient Aligned Care Team

- Given the significant consequences of untreated delirium, depression, and dementia there needs to be a paradigm shift such that these disorders are a regular part of the workup and diagnostic differential for our aging patients
- Healthcare **team** approach is best

What you might hear in clinic

- I can't focus
- She's not interested in her usual activities
- I can't come up with the word I want
- My energy is low
- My husband's "selective attention" is worse – he doesn't listen to me
- My short-term memory is shot
- I couldn't find my car in the parking lot
- You didn't tell me to increase my atenolol and stop taking HCTZ

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Frxgwh#eh###

Ghsuhvvlrq B

Ghoulxp B

Ghp hqwldB

“Typical” Cognitive Aging

- Autobiographical memory
- Recall of well-learned information
- Procedural memory
- Emotional processing

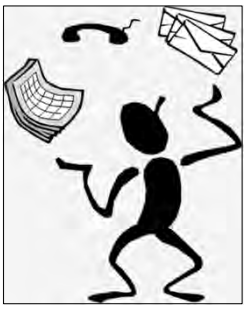
⇓ Encoding of new memories
- Slower to learn new tasks, need more repetition

⇓ Working memory/multi-tasking
- Can’t juggle as many things at once

⇓ Processing speed
- Slower to respond to novel situations

Dementia Is . . .

A decline in some aspect of cognitive function and/or behavior



Daily Living Skills

- ✓Significant
  - functional consequences
- ✓Chronic
  - insidious onset and progressive course
- ✓Loss
  - new impairments (not lifelong)
- ✓Structural Damage
  - neurons die

. . . What Dementia Is Not

- Delirium – acute onset, attention and concentration problems
- Depression – apathy, distraction; apparent cognitive deficits, but none during testing
- Sensory deficits or communication problems
- Normal aging

Types of Dementia

- ✓ Alzheimer's Disease
- ❑ Vascular Dementia
- ❑ Lewy Body Disease
- ❑ Parkinson's disease with dementia
- ❑ Frontotemporal Dementia (FTD)

Causes that Mimic Dementia

Toxic/metabolic →	Medications, B_{12} deficiency, hypothyroidism, impaired liver/kidney function, poisoning
Systemic illnesses →	Infections (UTI to meningitis), pulmonary disease, cardiovascular disease
Other →	Depression/PTSD, sleep apnea, stress, subdural hematoma, ETOH/drugs

Treatment may improve, but not fully reverse, symptoms

What Delirium Is . . .

aka “Toxic Metabolic Encephalopathy” or “Acute Confusional State”

A medical condition:

- Rapid onset
- Deficits in attention and concentration
- Waxing and waning mental status
- Infections, medications, metabolic abnormalities are the most common causes

✓ **Mental status changes often precede objective signs of illness**

✓ **Under-recognized (Inouye, et al, 2001)**

. . . What Delirium Is Not

- Insignificant – increased mortality when followed over 6-24 months McCusker, et al, JAMA, 2002; McCusker, et al, JAGS, 2014; Witlox, et al, JAMA, 2010; Tsai, et al, Intl J Psych Med, 2013.
- Dementia – slower onset, slower decline, more subtle fluctuation
- Rapidly resolving, even when the cause is corrected
- Normal aging

Risk Factors for Delirium

- Hospitalization – delirium affects up to 40%
- Review & Meta-analysis (Ahmed, Leurent, & Sampson, 2014)
  - Pooled analysis risk factors: dementia, illness severity, visual impairment, urinary catheterization, low albumin, and length of hospital stay
- Risk factors in a hip fracture hospital sample (Mosk, et al, 2017)
  - n=566, 35% with delirium
  - Age, dementia, hx of delirium, overall health rating, preoperative hx of institutionalization, functional dependency, amount of blood transfusion, low Hb

Recognizing Delirium

- Confusion that develops over days or weeks
- Trouble with attention, focus, & concentration
- Waxing and waning
- Fluctuating sleep disturbances
- Hyperactive (agitated) <u>or</u> hypoactive (sedated)
- Erratic, uncharacteristic, inappropriate behavior
- Hallucinations (especially visual), paranoia
- Somnolence

Current headlines

Some Coronavirus Patients Show Signs of Brain Ailments

- April 1, 2020 New York Times
- Doctors have observed neurological symptoms, including confusion, stroke and seizures, in a small subset of Covid-19 patients.
- Be aware of high delirium risk
- Additionally ongoing monitoring for depression and dementia

What Depression is . . .

A syndrome of psychological and bodily symptoms

- Low mood or anhedonia (lack of pleasure)
- Problems with sleep (too little or too much)
- Problems with appetite (too high or too low)
- Trouble concentrating
- Decreased interests
- Feelings of guilt or having done something wrong
- Low energy
- Slowed movements
- Suicidal thoughts
- Unreal experiences: “my mind playing tricks on me” (hearing voices or feeling paranoid)

. . . What Depression Is Not

- A bad day, week, or month
- Grief
- A natural reaction to medical illness or loss
- A cause of dementia – “pseudo-dementia”
- **Untreatable in older adults**

Recognizing Depression

- Often presents as nonspecific physical symptoms
  - Fatigue
  - Pain
  - GI problems
- Older patients might be less likely than younger to admit to being “depressed”
- Depression is stigmatized
- Patients often more willing to endorse mental health symptoms in writing than in person

Depression in the Elderly

- As many as 10% of adults age 65+ seen in primary care settings have clinically significant depression[1,2]
- Younger and older adults respond equally well to treatment: psychotherapy and/or pharmacotherapy
  - However, only ~10% of older adults with depression receive treatment[3]
  - Always consider Medical Comorbidity
- Suicide rates: higher in the elderly
  - Also higher in Veterans, males, and Whites/Native Americans
- Monitor for cognitive decline because depression in later life could be a red flag for preclinical dementia[4]

1. Unützer, *N Engl J Med* 2007. 2. Lyness, et al. J Gen Intern Med 1999; 3. Klap, et al. *Am J Geriatr Psychiatry* 2003. 4. Singh-Manoux, et al. *JAMA Psychiatry* 2017.

Dementia, Delirium, and Depression

	Common Features	Hallmarks
Dementia	Subjective confusion Difficulty performing tasks	Problems with memory plus problems with speech, actions, recognition, or executive functioning Chronic and progressive, slow onset Functional decline
Delirium	"Not right" on interview	Trouble with attention and concentration Rapid onset; waxing and waning Due to a medical cause
Depression	Loved ones are worried	Decreased concentration and interest Sensorium is clear

Used with permission from S. Thielke

Overlap in Syndromes

- Rates of depression in dementia range from 0-86% of cases (Wright & Persad, 2007)
- Delirium superimposed on dementia (DSD) = 57.7% (Mosk, et al, 2017)
- Older hospitalized patients, n=459, age 70+
  - Delirium and Depression – 5%
  - Delirium alone – 8.5%
  - Depression alone – 26.3%
  - Overlap syndrome = higher odds of 1 month functional decline, and NH placement or death at 1 year
  - Givens, Jones, & Inouye (2009)

Case - Joseph

- 66 year old male Veteran
- Divorced x 2 years from 2nd wife (<5 year marriage)
- New to primary care clinic; moved here to be closer to daughter
- Living independently in an apartment
- Her concern is: “He just sits around all day and forgets what I tell him”
- PMHx: diabetes, HTN – historically good control

Case - Joseph

- 66 year old male Veteran, living in an apt
- Divorced x 2 years from 2nd wife (<5 year marriage)
- New to clinic; moved here to be closer to daughter
- Daughter's concern is: "He just sits around all day and forgets what I tell him"
- PMHx: diabetes, HTN – they reported good control, but current BP and glucose are out of range
  - Is he taking his medications/insulin as prescribed?
- He says he misses his wife and doesn't have friends
- Doesn't seem cognitively sharp; disengaged at visit

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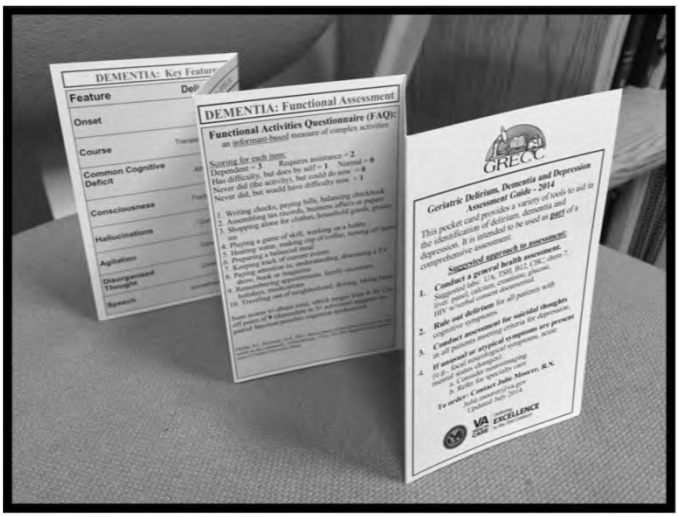
Next steps?

Initiate Work Up

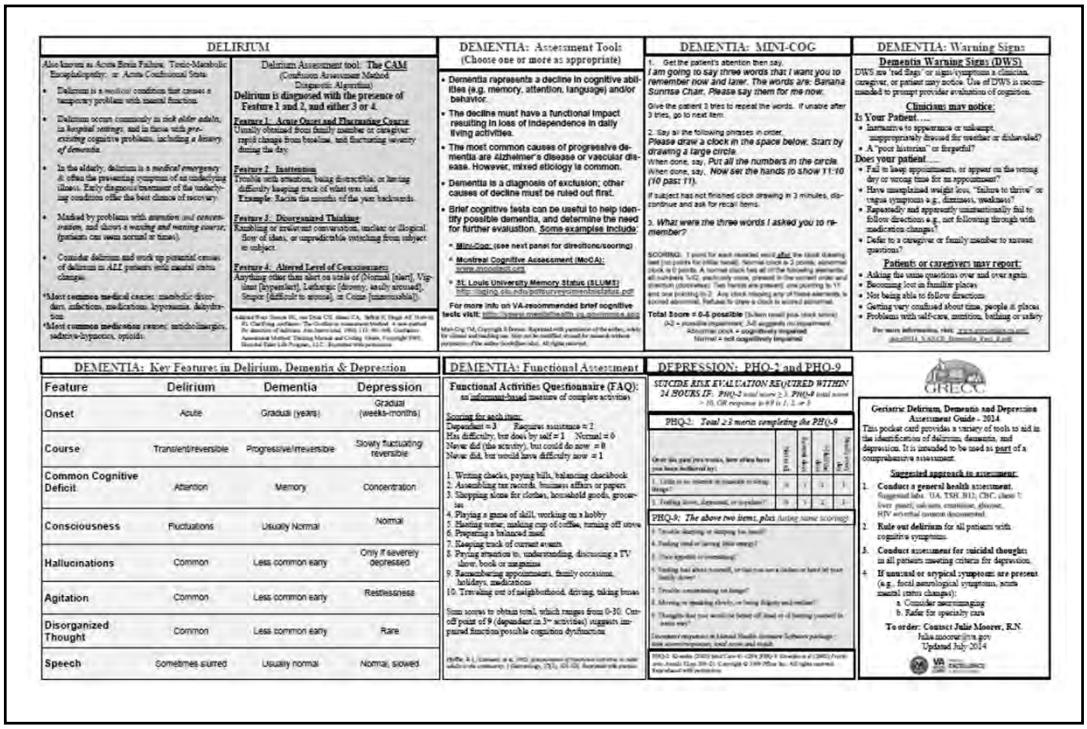
What are the available

SCREENING MEASURES?



3Ds: Assessment Guide

GERIATRIC DEMENTIA DELIRIUM AND DEPRESSION



DELIRIUM

Also known as Acute Brain Failure, Toxic-Metabolic Encephalopathy, or Acute Confusional State.

- Delirium is a *medical* condition that causes a temporary problem with mental function.
- Delirium occurs commonly in *sick older adults*, in *hospital settings*, and in those with *pre-existing* cognitive problems, including a *history of dementia*.
- In the elderly, delirium is a *medical emergency* & often the presenting symptom of an underlying illness. Early diagnosis/treatment of the underlying condition offer the best chance of recovery.
- Marked by problems with *attention and concentration*, and shows a *waxing and waning course*; (patients can seem normal at times).
- Consider delirium and work up potential causes of delirium in *ALL* patients with mental status changes.

*Most common medical causes: metabolic disorders, infections, medications, hypoxemia, dehydration.

*Most common medication causes: anticholinergics, sedative-hypnotics, opioids.

Delirium Assessment tool: The CAM (Confusion Assessment Method Diagnostic Algorithm)

Delirium is diagnosed with the presence of Feature 1 and 2, and either 3 or 4.

Feature 1: Acute Onset and Fluctuating Course
Usually obtained from family member or caregiver: rapid change from baseline, and fluctuating severity during the day.

Feature 2: Inattention
Trouble with attention, being distractible, or having difficulty keeping track of what was said.
Example: Recite the months of the year backwards.

Feature 3: Disorganized Thinking
Rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject.

Feature 4: Altered Level of Consciousness
Anything other than alert on scale of (Normal [alert], Vigilant [hyperalert], Lethargic [drowsy, easily aroused], Stupor [difficult to arouse], or Coma [unarousable]).

Adapted from: Inouye SK, vanDyck 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: 941-948. Confusion Assessment Method: Training Manual and Coding Guide, Copyright 2003, Hospital Elder Life Program, LLC. Reprinted with permission.

DEMENTIA: Assessment Tool: (Choose one or more as appropriate)

- Dementia represents a decline in cognitive abilities (e.g. memory, attention, language) and/or behavior.
- The decline must have a functional impact resulting in loss of independence in daily living activities.
- The most common causes of progressive dementia are Alzheimer's disease or vascular disease. However, mixed etiology is common.
- Dementia is a diagnosis of exclusion; other causes of decline must be ruled out first.
- Brief cognitive tests can be useful to help identify possible dementia, and determine the need for further evaluation. Some examples include:
  - Mini-Cog: (see next panel for directions/scoring)
  - Montreal Cognitive Assessment (MoCA): www.mocatest.org
  - St. Louis University Memory Status (SLUMS): http://aging.slu.edu/pdf/surveysmentalstatus.pdf

For more info on VA-recommended brief cognitive tests visit: http://www.mirecc.va.gov/visn16/docs/tools/BriefCognitiveAssessmentToolsforPrimaryCare.pdf

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DEMENTIA: MINI-COG

1. Get the patient's attention then say:
I am going to say three words that I want you to remember now and later. The words are: Banana Sunrise Chair. Please say them for me now.
Give the patient 3 tries to repeat the words. If unable after 3 tries, go to next item.
2. Say or the following phrases in order:
Please draw a clock in the space below. Start by drawing a large circle.
When done, say, *Put all the numbers in the circle.*
When done, say, *Now set the hands to show 11:10 (10 past 11).*
If subject has not finished clock drawing in 3 minutes, discontinue and ask for recall items.
3. *What were the three words I asked you to remember?*

SCORING: 1 point for each recalled word after the clock drawing test (no points for initial recall). Normal clock is 2 points, abnormal clock is 0 points. A normal clock has all of the following elements: all numbers 1-12, exactly once, present in the correct order and direction (clockwise). Two hands are present; one pointing to 11 and one pointing to 2. Any clock missing any of these elements is scored abnormal. Failure to draw a clock is scored abnormal.

Total Score = 0-5 possible (3-item recall plus clock score)
0-2 = possible impairment. 3-5 suggests no impairment.
Abnormal clock = cognitively impaired
Normal = not cognitively impaired

DEMENTIA: Warning Signs

Dementia Warning Signs (DWS)
DWS are 'red flags' or signs/symptoms a clinician, caregiver, or patient may notice. Use of DWS is recommended to prompt provider evaluation of cognition.

Clinicians may notice:
Is Your Patient.....
- Inattentive to appearance or unkempt, inappropriately dressed for weather or disheveled?
- A "poor historian" or forgetful?

Does your patient.....
- Fail to keep appointments, or appear on the wrong day or wrong time for an appointment?
- Have unexplained weight loss, "failure to thrive" or vague symptoms e.g., dizziness, weakness?
- Repeatedly and apparently unintentionally fail to follow directions e.g., not following through with medication changes?
- Defer to a caregiver or family member to answer questions?

Patients or caregivers may report:
- Asking the same questions over and over again
- Becoming lost in familiar places
- Not being able to follow directions
- Getting very confused about time, people & places
- Problems with self-care, nutrition, bathing or safety

For more information, visit: www.geriatricscare.org/pdf/11_VAGECC_Dementia_Tool_Kit.pdf

DEMENTIA: Key Features in Delirium, Dementia & Depression

Feature	Delirium	Dementia	Depression
Onset	Acute	Gradual (years)	Gradual (weeks-months)
Course	Transient/reversible	Progressive/irreversible	Slowly fluctuating reversible
Common Cognitive Deficit	Attention	Memory	Concentration
Consciousness	Fluctuations	Usually Normal	Normal
Hallucinations	Common	Less common early	Only if severely depressed
Agitation	Common	Less common early	Restlessness
Disorganized Thought	Common	Less common early	Rare
Speech	Sometimes slurred	Usually normal	Normal, slowed

DEMENTIA: Functional Assessment

Functional Activities Questionnaire (FAQ): an informant-based measure of complex activities

Scoring for each item:
Dependent = 3 Requires assistance = 2
Has difficulty, but does by self = 1 Normal = 0
Never did (the activity), but could do now = 0
Never did, but would have difficulty now = 1

1. Writing checks, paying bills, balancing checkbook
2. Assembling tax records, business affairs or papers
3. Shopping alone for clothes, household goods, groceries
4. Playing a game of skill, working on a hobby
5. Heating water, making cup of coffee, turning off stove
6. Preparing a balanced meal
7. Keeping track of current events
8. Paying attention to, understanding, discussing a TV show, book or magazine
9. Remembering appointments, family occasions, holidays, medications
10. Traveling out of neighborhood, driving, taking buses

Sum scores to obtain total, which ranges from 0-30. Cut-off point of 9 (dependent in 3+ activities) suggests impaired function/possible cognitive dysfunction.

Pfeffer, R.I., Kurosaki, et al., 1982, Measurement of functional activities in older adults in the community. J Gerontology, 37(3), 323-329. Reprinted with permission.

DEPRESSION: PHQ-2 and PHQ-9

SUICIDE RISK EVALUATION REQUIRED WITHIN 24 HOURS IF: PHQ-2 total score ≥ 3, PHQ-9 total score > 10, OR response to #9 is 1, 2, or 3

PHQ-2: Total ≥ 3 means completing the PHQ-9

Over the past two weeks, how often have you been bothered by:	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things?	0	1	2	3
2. Feeling down, depressed, or hopeless?	0	1	2	3

PHQ-9: The above two items, plus (using same scoring)

3. Trouble falling or staying asleep, or sleeping too much?
4. Feeling tired or having little energy?
5. Poor appetite or overeating?
6. Feeling bad about yourself, or that you are a failure or have let yourself or family down?
7. Trouble concentrating on things?
8. Moving or speaking slowly, or being fidgety or restless?
9. Thoughts that you would be better off dead or of hurting yourself in some way?

Document response in Mental Health Assistant Software package: text screening/assessment, brief score and result.

PHQ-2, 9 copyright © 1999 Pfizer Inc. All rights reserved. Reproduced with permission.

GRECC

Geriatric Delirium, Dementia and Depression Assessment Guide - 2014
This pocket card provides a variety of tools to aid in the identification of delirium, dementia, and depression. It is intended to be used as part of a comprehensive assessment.

Suggested approach to assessment:
1. **Conduct a general health assessment.** Suggested labs: UA, TSH, B12, CBC, chem 7, liver panel, calcium, creatinine, glucose, HIV serverial consent documented.
2. **Rule out delirium** for all patients with cognitive symptoms.
3. **Conduct assessment for suicidal thoughts** in all patients meeting criteria for depression.
4. **If unusual or atypical symptoms are present** (e.g., focal neurological symptoms, acute mental status changes):
   a. Consider neuroimaging
   b. Refer for specialty care

To order: Contact Julie Moorer, R.N.
Julia.moorer@va.gov
Updated July 2014

Delirium

DELIRIUM

Also known as "Acute Brain Failure", "Toxic-Metabolic Encephalopathy", or "Acute Confusional State"

Delirium commonly ***occurs in a patient with a history of dementia***.

Occurs commonly in ***sick older adults*** and in ***hospital settings***, and in those with ***pre-existing*** cognitive problems.

Marked by problems with ***attention*** *and* ***concentration***.

Shows a ***waxing and waning*** course; patients can seem normal at times.

- Consider delirium in ALL cases of mental status change.
- Work up potential causes of delirium in all patients with mental status changes.

- **Most common medical causes**: metabolic disorders, infections, medications, hypoxemia, dehydration.
- **Most common medication causes**: anticholinergics, sedative-hypnotics, opioids.

Use this assessment tool: The CAM (Confusion Assessment Method Diagnostic Algorithm)

Delirium is diagnosed with the presence of Feature 1 and 2, and either 3 or 4.

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Working Up Delirium

- It's not just a "bad day"
- Use collateral sources of information
- Consider the whole clinical picture – broad differential

I nfections
W ithdrawal
A cute metabolic
T rauma
C NS pathology
H ypoxia

D eficiencies
E ndocrinopathies
A cute vascular
T oxins or drugs
H eavy metals

Joseph's work up was negative

Depression

- PHQ-2 is a quick and dirty screen
- Self-report

"Over the past two weeks, how often have you been bothered by these problems?"

	Not at all	Several days	> Half of the days	Nearly every day
1. Little or no interest or pleasure in doing things?	0	1	2	3
2. Feeling down, depressed, or hopeless?	0	1	2	3
A score of **3 or greater** merits completing the PHQ-9, AND a suicide risk evaluation should be completed within 24 hours				

PHQ-9

1. Little or no interest or pleasure in doing things?
2. Feeling down, depressed, or hopeless?
3. Trouble falling asleep, staying asleep, or sleeping too much?
4. Feeling tired or having little energy?
5. Poor appetite or overeating?
6. Feeling bad about yourself, feeling that you are a failure, or feeling that you have let yourself or your family down?
7. Trouble concentrating on things such as reading the newspaper or watching television?
8. Moving or speaking so slowly that others could have noticed, or being so fidgety and restless that you have been moving around a lot more than usual?
9. Thinking that you would be better off dead or that you want to hurt yourself in some way?

All questions use 0 – 3 scale (as on PHQ-2)

Depression is likely if the total score is greater than 10

A suicide risk evaluation is recommended immediately if:

Total Score is greater than 10 and/or response to question #9 is 1, 2 or 3.

Joseph's work up was positive

Dementia

'Red flags' Signs/symptoms a clinician, caregiver, or patient may notice. Should prompt provider to evaluate cognition

Clinicians may notice:

Is Your Patient…..

- Inattentive to appearance or unkempt, inappropriately dressed for weather or disheveled?
- A "poor historian" or forgetful?

Does your patient…..

- Fail to keep appointments, or appear on the wrong day or wrong time for an appointment?
- Have unexplained weight loss, "failure to thrive" or vague symptoms e.g., dizziness, weakness?
- Repeatedly and apparently unintentionally fail to follow directions e.g., not following through with medication changes?
- Defer to a caregiver or family member to answer questions?

Patients or caregivers may report:

- Asking the same questions over and over again
- Becoming lost in familiar places
- Not being able to follow directions
- Getting very confused about time, people & places
- Problems with self-care, nutrition, bathing or safety

For more information, visit: www.prevention.va.gov/docs/0514_VANCP_Dementia_Fact_F.pdf

Cognitive screen: Mini-Cog

A Screening Tool; does not diagnose dementia

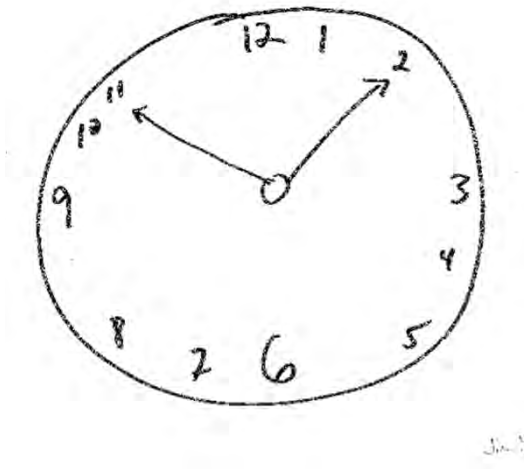
1. Get the patient's attention then say, ***I am going to say three words that I want you to remember now and later. The words are: Banana, Sunrise ,Chair. Please say them for me now.***
Give the patient 3 tries to repeat the words. If unable after 3 tries, go to next item. → Unscored

2. Say all the following phrases in order, ***Please draw a clock in the space below. Start by drawing a large circle.*** When done, say, ***Put all the numbers in the circle.*** When done, say, ***Now set the hands to show 11:10 (10 past 11).***
If subject has not finished clock drawing in 3 minutes, discontinue and ask for recall items. → 2 pts for a clock without errors, 0 for **any** error

3. ***What were the three words I asked you to remember?*** → 1 pt per word (max 3)

Scoring: 0-5 possible
0-2 = possible impairment
3-5 = suggests no impairment

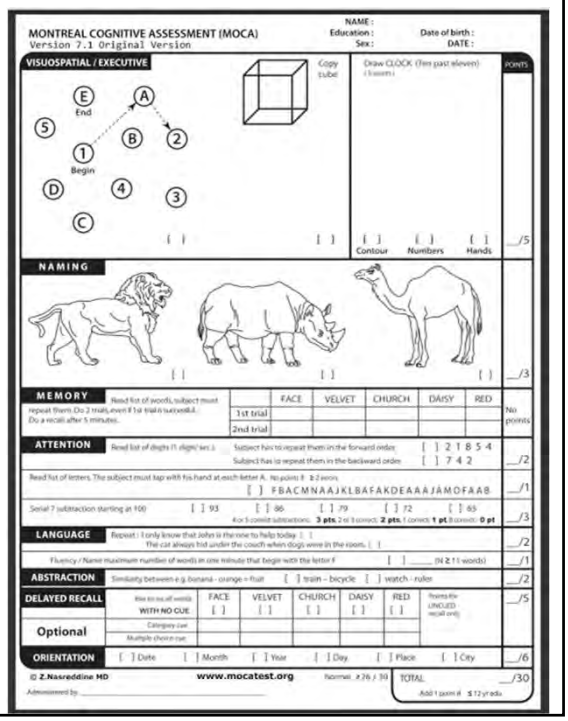
Mini-Cog Clock



Normal clock is 2 points; abnormal clock is 0 points.

- A normal clock has all of the following elements: all numbers 1-12, each only once, present in the correct order and direction (clockwise).
- Two hands are present, one pointing to 11 and one pointing to 2.
- Any clock missing any of these elements is scored abnormal.
- Refusal to draw a clock is scored abnormal.

Many other brief cognitive measures: SLUMS and MoCA are good 30pt examples



Montreal Cognitive Assessment (MoCA): http://www.mocatest.org/

- More sensitive than MMSE
- WELL-RESEARCHED
  - http://www.mocatest.org/references.asp
- Comes in multiple English versions and >25 other languages
- Blind/Telephone version
- Telemedicine version
- Do online training or get trained

MOCA SCORES

	Normal Controls (NC)	Mild Cognitive Impairment (MCI)	Alzheimer's Disease (AD)
Number of subjects	90	94	93
MoCA average score	27.4	22.1	16.2
MoCA standard deviation	2.2	3.1	4.8
MoCA score range	25.2 – 29.6	19.0 – 25.2	21.0 – 11.4
Suggested cut-off score	**≥26**	**<26**	**<26ψ**

ψ Although the average MoCA score for the AD group is much lower than the MCI group, there is overlap between them. The suggested MoCA cut-off score is thus the same for both. The distinction between AD and MCI is mostly dependent on the presence of associated functional impairment and not on a specific score on the MoCA test.

Sensitivity and Specificity (%) MoCA and MMSE

Cut-off	≥ 26	< 26	< 26
Group (n)	Normal controls (90)	Mild Cognitive Impairment (94)	Alzheimer Disease (93)
MoCA	87	90	100
MMSE	100	18	78

Nasreddine, et al. (2005) J Am Geriatr Soc 53: 695-699.

Why use brief cognitive tests?

- To obtain a quick sense of global function
  - To identify if there are deficits
  - To follow someone with identified deficits over time
- Is there any reason to question whether the patient has decision-making capacity?
- To identify cognitive decline early
  - Benefits include: early introduction of cholinesterase inhibitors, addressing any reversible influences, assist with care planning, to motivate patients toward positive behavioral change

Functional Activities Questionnaire

Scoring for each item:
Dependent = **3** Requires assistance = **2**
Has difficulty, but does by self = **1** Normal = **0**
Never did (the activity), but could do now = **0**
Never did, but would have difficulty now = **1**

1. Writing checks, paying bills, balancing checkbook
2. Assembling tax records, business affairs or papers
3. Shopping alone for clothes, household goods, groceries
4. Playing a game of skill, working on a hobby
5. Heating water, making cup of coffee, turning off stove
6. Preparing a balanced meal
7. Keeping track of current events
8. Paying attention to, understanding, discussing a TV show, book or magazine
9. Remembering appointments, family occasions, holidays, medications
10. Traveling out of neighborhood, driving, taking buses

Sum scores to obtain total, which ranges from 0-30. Cut-off point of **9** (dependent in 3+ activities) suggests impaired function/possible cognition dysfunction

Pfeffer, R.I., et al, 1982. *Measurement of functional activities in older adults in the community*. J Gerontology, 37(3), 323-329.

Risk Factors: Manage and/or Avoid

Medical Conditions

- High Blood Pressure
- High Cholesterol
- Type II Diabetes
- Sleep Apnea

Behavioral Factors

- Nutrition / Diet
- Alcohol / Tobacco
- Exercise
- Stress
- Socialization

Cognitive Screening – Meaning

- Interpretation and appropriate populations?
  - Limited detection for individuals who are outside the average range (either higher or lower)
  - Learning disability or low education?
  - Hearing or vision problems?
  - Limited hand function?
- Poor as stand-alone measures
  - Recommend informant/collateral input
  - Consider other risk factors and context

Joseph's MOCA was 25

The 3 Ds: Action Plan

Step 1 – Rule-Out

Identify potentially treatable causes of cognitive decline.
[use frontline tools, history, physical exam, blood tests]

Step 2 – Monitor

Once these are ruled out and/or treated, monitor patients over time.
[use frontline tools to catch signs early]

Step 3 – Indepth Evaluation

If problems persist and/or worsen, consider further evaluation.
[brain scan, additional labs, specialists.]

Dementia is a diagnosis of **EXCLUSION**

. . . And remember to communicate diagnostic information to your patients

Case - Joseph

- 66 year old male Veteran, living in an apt
- Divorced x 2 years from 2nd wife (<5 year marriage)
- New to clinic; moved here to be closer to daughter
- Daughter is concerned
- PMHx: diabetes, HTN – historically good control, but now vitals and labs don't look so great
- Is he taking his medications/insulin as prescribed?
- Doesn't seem cognitively sharp; disengaged at visit
- **Delirium ruled out**
- **Depression tx initiated**
- **Dementia is tbd**

Dementia?

Delirium?

Depression?

Superman in his later years

Thank you!

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VA | U.S. Department of Veterans Affairs
Veterans Health Administration
Geriatric Research, Education, and Clinical Centers