



**UW PACC**

Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

## **GERIATRIC PSYCHIATRY #1 - DIAGNOSIS**

PSYCHIATRIC SYMPTOMS IN THE ELDERLY (NEUROPSYCHIATRIC SYMPTOMS OF DEMENTIA AND DELIRIUM VS. PRIMARY PSYCHIATRIC DISORDERS)

***IS THIS FRONTOTEMPORAL DEMENTIA, ADULT ONSET PSYCHOSIS, OR SOMETHING ELSE? HOW CAN I TELL?***

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# GENERAL DISCLOSURES

The University of Washington School of Medicine also gratefully acknowledges receipt of educational grant support for this activity from the Washington State Legislature through the Safety-Net Hospital Assessment, working to expand access to psychiatric services throughout Washington State.

# SPEAKER DISCLOSURES

✓ Any conflicts of interest?

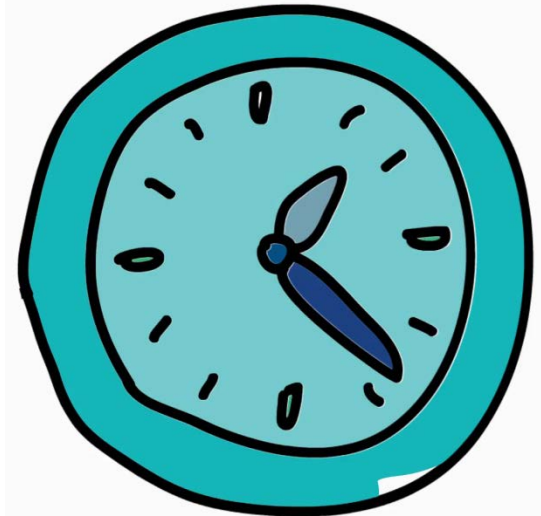
Nope

# LEARNING OBJECTIVES

This talk will teach you to:

1. Choose an appropriate **workup** for your older patient presenting with **cognitive complaints** and/or **new onset psychiatric symptoms**.
2. Diagnose the most common **neurocognitive** disorders based on their typical pattern of deficits.
3. Make a **differential diagnosis** of the older patient presenting with cognitive and psychiatric symptoms - i.e. decide between neuropsychiatric symptoms of dementia vs. delirium vs. a primary psychiatric disorder.

(no worries, we can get this all done  
in 30 minutes)



Section 1 (of 3):

# **PRESENTING SYMPTOM: COGNITIVE COMPLAINTS**

# ...A TYPICAL DAY AT THE (MY) OFFICE

"Joe: Doc, my memory is going bad. I am worried I have Alzheimers."

What are the possibilities?

- Worried well
- Medical problem
- Psychiatric problem
- Dementia




# WORKUP: BRIEF COGNITIVE ASSESSMENT

**MONTREAL COGNITIVE ASSESSMENT (MOCA)**

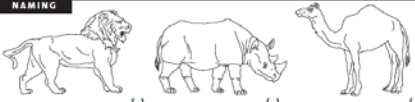
NAME: \_\_\_\_\_ Education: \_\_\_\_\_ Date of birth: \_\_\_\_\_  
 Sex: \_\_\_\_\_ DATE: \_\_\_\_\_

**VERBOSPATIAL / EXECUTIVE**

Copy cube:  Draw CLOCK (Ten past eleven) (3 points)

5 End  
 1 Begin  
 2  
 3  
 4  
 A  
 B  
 C  
 D

**NAMING**



Contour \_\_\_\_\_ Numbers \_\_\_\_\_ Hands \_\_\_\_\_

**MEMORY**

Read list of words, subject must repeat them. Do a VISA, do a recall after 5 minutes.

FACE	VELVET	CHURCH	DADSY	RED
_____	_____	_____	_____	_____

**ATTENTION**

Read list of digits (1-9 digits x 5). Subject has to repeat them in the forward order [ ] 2 1 8 5 4 [ ] and in the backward order [ ] 7 4 2 [ ]

Read list of letters. The subject must tap with his hand at each letter A. No pencil! 3 times [ ] FBACMNAAJKLBAFAKDEAAAJAMOFAB [ ]

Serial subtraction starting at 100 [ ] 98 [ ] 86 [ ] 79 [ ] 77 [ ] 65 [ ]

**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. [ ]

Phrasing / Name maximum number of words in one sentence that begins with the letter F [ ] (N = 2 in words) [ ]

**ABSTRACTION**

Similarity between e.g. bananas - oranges - fruits [ ] train - bicycle [ ] watch - ruler [ ]

**DELAYED RECALL**

Has to read words WITH NO CUE [ ] FACE [ ] VELVET [ ] CHURCH [ ] DADSY [ ] RED [ ]

Optional: Category cue: \_\_\_\_\_

**ORIENTATION**

[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City [ ]

Normal 26 / 30 TOTAL \_\_\_\_\_ / 30  
 Add 1 point if 610 yr olds

## MOCA

**Mini-Mental State Examination (MMSE)**

Patient's Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** Ask the questions in the order listed. Score one point for each correct response within each question or activity.

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.)
30		TOTAL

(Adapted from Rovner & Folstein, 1987)

## SLUMS

**VAMC SLUMS Examination**

Department of Veterans Affairs

NAME: \_\_\_\_\_ AGE: \_\_\_\_\_  
 Is patient alert? \_\_\_\_\_ Level of education: \_\_\_\_\_

1. What day of the week is it?  
 2. What is the year?  
 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. How much did you spend?  
 6. Please name as many animals as you can in one minute.  
 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.  
 9. This is a clock face. Please put in the hour markers and the time at ten minutes to eleven o'clock.  
 10. Please place an X in the triangle.  
 11. I am going to tell you a story. Please listen carefully because afterwards, I'm going to ask you some questions about it.

**STORY:** Bill 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 read back to work. She and Jack lived happily ever after.

12. What was the female's name?  
 13. What work did the live in?

**SCORING:**

High School Education	27-30	Normal	25-30
	21-26	UNCED	20-24
	1-20	Dementia	1-19

\* MMSE Neurocognitive Disorder

## MMSE

**Mini-Cog™** Instructions for Administration & Scoring

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are (select a list of words from the versions below). Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

Step 2: Clock Drawing

Say, "Now, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say, "Now, set the hands to 10 past 11."

Step 3: Three Word Recall

Ask the person to recall all three words you started in Step 1. Say, "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Scoring

Word Recall	0-3 (3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw	0-2 (2 or 1 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions with no missing or duplicate numbers. Hands are pointing to the 11 and 10:10). If not length is not so great. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score	0-5 (5 points)	Total score = Word Recall score + Clock Draw score. A cut point of < 3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of 4 is recommended as it may indicate a need for further evaluation of cognitive status.

## Mini-Cog

- **MOCA** – best short test (20 minutes), includes a visual-spatial component
- **Mini-cog** – shortest test (3 minutes) for the hurried PCP, tells you “something is seriously wrong”, but false negative for mild cognitive change

ID: \_\_\_\_\_ Date: \_\_\_\_\_

### Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.<sup>1-3</sup> For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

### Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

### Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: \_\_\_\_\_ Person's Answers: \_\_\_\_\_

### Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score.  A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

# MINI-COG:

(It is Monday morning and your docket says 50 patients for the day)

1 – I would like you to **remember three words** for me: (village, kitchen, baby). Could you please repeat these words for me now? (let's try again) Please remember those words, I am going to ask you again later.

2 – Could you please draw a **clock face** for me? (draw the face, and all the numbers) Please have the hands show **ten past 11** (make sure your patient has reading glasses).

3 – Can you tell me which three words I asked you to **remember** earlier? (give first category cues, then multiple choice cues if your patient struggles)



1 – I would like you to **remember three words** for me: (village, kitchen, baby). Could you please repeat these words for me now? (let's try again) Please remember those words, I am going to ask you again later.

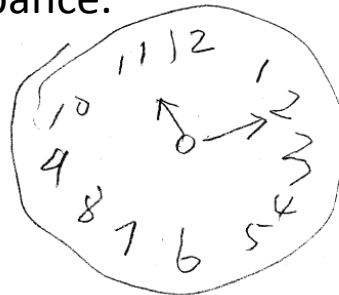
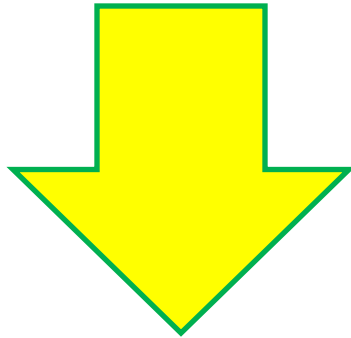
2 – Could you please draw a **clock face** for me? (draw the face, and all the numbers) Please have the hands show **ten past 11** (make sure your patient has reading glasses).

3 – Can you tell me which three words I asked you to **remember** earlier? (give first category cues, then multiple choice cues if your patient struggles)

### What the Mini-Cog tells you:

A. Severe memory disturbance. Memory loss not improved by cueing suggests AD.

B. Executive/visuospatial disturbance.



Normal Clock



Abnormal Hands



Abnormal Numbers

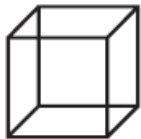
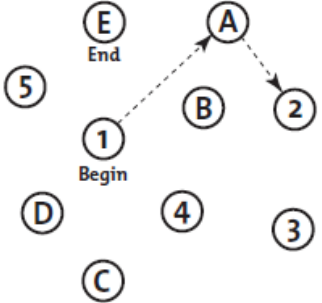

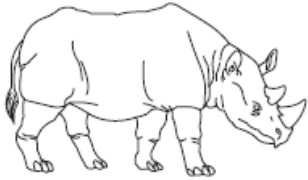
## The Ultra-Quick and Very Dirty Diagnostic Algorithm of Common Dementias:

**If A but not B:** Most likely Alzheimer's

**If B but not A:** Most likely vascular dementia

**If both A and B:** Most likely Alzheimer's + vascular dementia

...we will get back to a better differential diagnosis in a few minutes

<b>VISUOSPATIAL / EXECUTIVE</b>		 Copy cube <input type="checkbox"/>		Draw CLOCK (Ten past eleven) (3 points) <input type="checkbox"/>		<b>POINTS</b>																		
		<input type="checkbox"/>		<input type="checkbox"/>		___/5																		
<b>NAMING</b>		 <input type="checkbox"/>		 <input type="checkbox"/>		___/3																		
<b>MEMORY</b>		Read list of words, subject must repeat them. Do 2 trials. Do a recall after 5 minutes.		<table border="1" style="width:100%; text-align: center;"> <tr> <td></td> <td>FACE</td> <td>VELVET</td> <td>CHURCH</td> <td>DAISY</td> <td>RED</td> </tr> <tr> <td>1st trial</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2nd trial</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			FACE	VELVET	CHURCH	DAISY	RED	1st trial						2nd trial						No points
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FACE	VELVET	CHURCH	DAISY	RED																				
[ ]	[ ]	[ ]	[ ]	[ ]																				
<b>Optional</b>		Category cue Multiple choice cue																						
<b>ORIENTATION</b>		[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City		___/6																				
		© Z.Nasreddine MD Version November 7, 2004 www.mocatest.org		Normal ≥ 26 / 30 <b>TOTAL</b> ___/30 Add 1 point if ≤ 12 yr edu																				

# MOCA:

(Your day is survivable, and you have time to do what should ideally be done: )

- Sum all subscores listed on the right-hand side. Add one point for an individual who has 12 years or fewer of formal education, for a possible maximum of 30 points.
- A final total score of 26 and above is considered normal.
- Ruth's rule: a good MOCA (20 min) gives you about 2/3 of the information of a 2-4 hour neuropsychological test battery.
- Information is not only contained in the absolute **score**, but also in the **pattern** of deficits.

## ...BACK TO JOE:

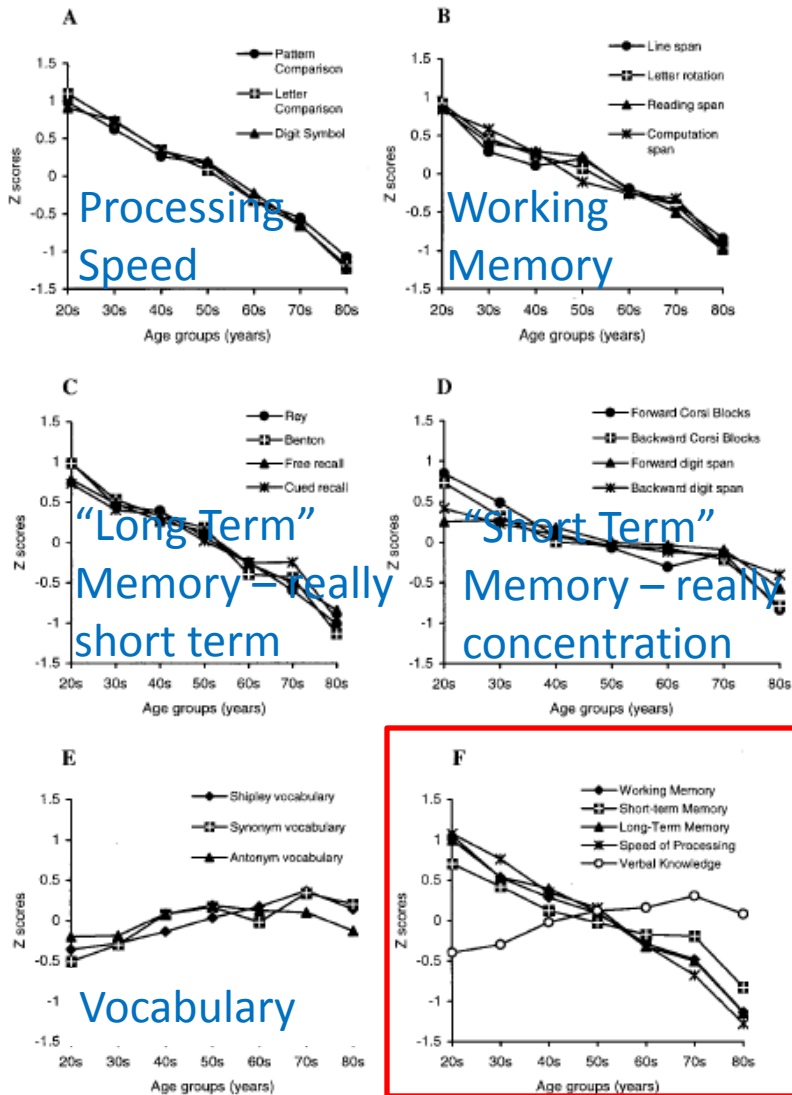
65-year old man with a MOCA of 27...

"That's great, doc, but I am still not the man I used to be. My wife tells me I am forgetting things."

Why?



# WHAT IS NORMAL AGING?



Most cognitive abilities decline linearly throughout the life span – two standard deviations of decline in processing speed and memory retrieval.

## Summary

Models of Visuospatial and Verbal Memory Across the Adult Life Span, Park et al., Psychology and Aging 2002, Vol. 17, No. 2, 299–320

Figure 1. Life span performance measures. A: Speed of processing measures. B: Working memory measures (visuospatial and verbal). C: Long-term memory measures (visuospatial and verbal). D: Short-term memory measures (visuospatial and verbal). E: Knowledge-based verbal ability measures. F: A composite view of the aforementioned measures. Composite scores for each construct represent the z score of the average of all measures for that construct.

# PRACTICAL IMPLICATIONS OF NORMAL AGE-RELATED COGNITIVE CHANGE:

- As (usually high-functioning) middle-aged patients become aware of age-related change, they may present with anxiety, depression, and concerns about dementia.
- Age-related cognitive change leads to a reduction in cognitive reserve, which *makes patients vulnerable to the cognitive impact of other medical or psychiatric conditions.*

# AGING + ADULT ADHD

- The majority of children with ADHD continue to have ADHD as adults.
- Some middle aged patients become symptomatic when they can no longer multitask rapidly.
- Patient present with depression, anxiety, feeling overwhelmed.



We think of ADHD as a disease of children, but sometimes patients are first diagnosed in their 60s or 70s.

# Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

Patient Name	Today's Date						
Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment.			Never	Rarely	Sometimes	Often	Very Often
1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?							
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?							
3. How often do you have problems remembering appointments or obligations?							
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?							
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?							
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?							
<b>Part A</b>							
7. How often do you make careless mistakes when you have to work on a boring or difficult project?							
8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?							
9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?							
10. How often do you misplace or have difficulty finding things at home or at work?							
11. How often are you distracted by activity or noise around you?							
12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?							
13. How often do you feel restless or fidgety?							
14. How often do you have difficulty unwinding and relaxing when you have time to yourself?							
15. How often do you find yourself talking too much when you are in social situations?							
16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?							
17. How often do you have difficulty waiting your turn in situations when turn taking is required?							
18. How often do you interrupt others when they are busy?							
<b>Part B</b>							

- Patient fills out the form by himself (remind her not to pay any attention to the different shading in the boxes).
- 4 or more in the shaded area of Part A = probable or possible ADHD
- Part B just gives ancillary information; the total score is not very informative.

Section 2 (of 3):

**PRESENTING SYMPTOMS:  
DEPRESSION – ANXIETY – APATHY –  
HALLUCINATIONS – DELUSIONS –  
PERSONALITY CHANGE**



# NEUROPSYCHIATRIC SYMPTOM (NPS) RELATIONSHIPS

"Jenny: Doc, my husband is just not himself."

Mood/  
Personality  
change

Anger  
Irritability

Depression

Apathy

Anxiety

Behavior  
change

Social  
withdrawal

Gives up  
activities

Suspiciousness  
Paranoia

Halluci-  
nations

Out of  
touch with  
reality

Delusions of  
infidelity

# ASSESSMENT OF THE OLDER PATIENT WITH NPS:

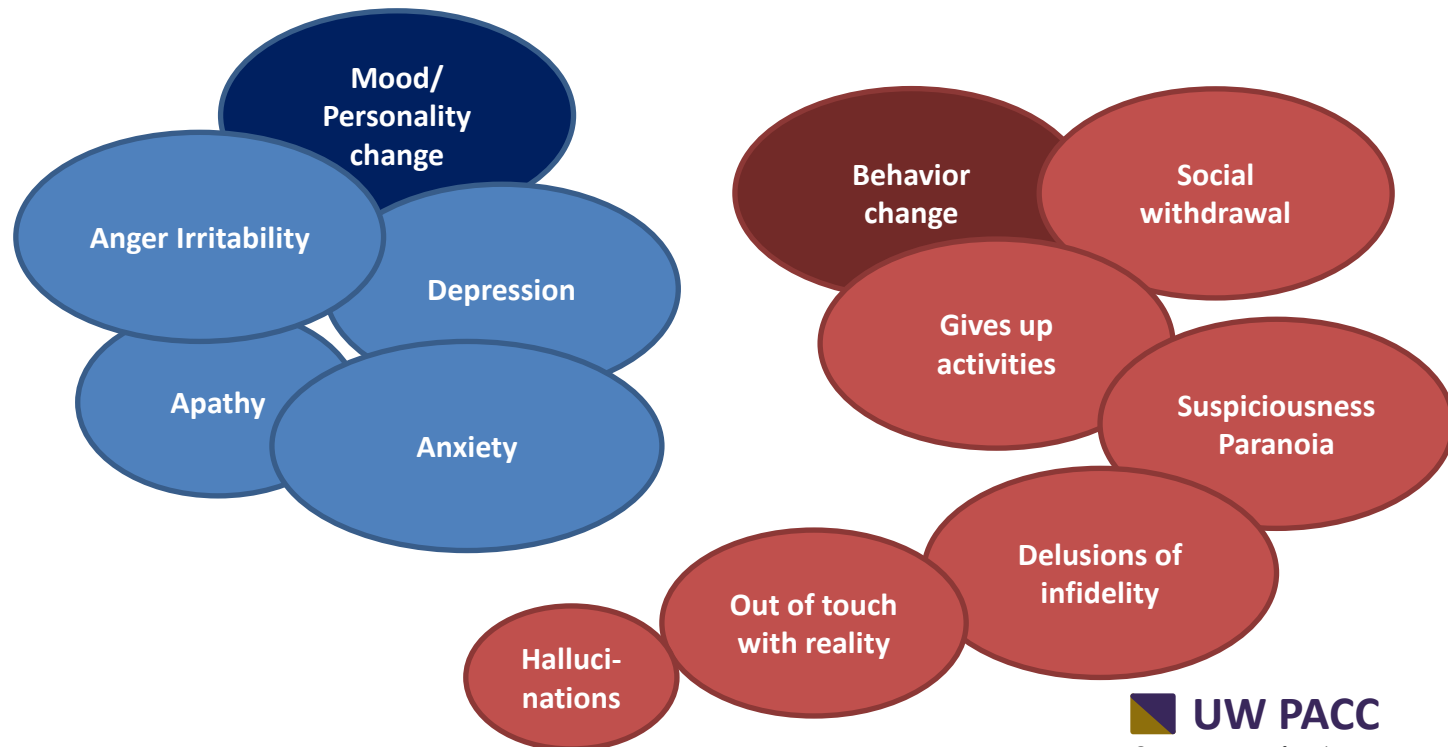
- **Inventory of symptoms**
- **Risk to self** (suicide or other potentially self-injurious behaviors)
- **Risk to others** (acting on delusions)
- **Time line:** Years – months – weeks – days

## Reasons to suspect cognitive impairment = most of the time, especially if:

- Patient is not tracking well during the interview
- Symptoms are new (e.g. no prior episode of major depression)



You do not lose anything by having a low threshold for performing a MOCA.



# THE IMPORTANCE OF THE TIMELINE IN NPS:

- Fairly rapid onset of fairly severe symptoms raises a red flag for delirium.
- First onset of psychiatric symptoms **5 or more years before** cognitive change indicates a **primary psychiatric disorder** (with currently complicating neurocognitive disorder such as dementia or mild cognitive impairment).
- Onset of psychiatric symptoms **within 5 years of the onset of cognitive change** suggests a **neurocognitive disorder** as primary driver of psychiatric morbidity.



## Results from longitudinal studies:

- The emergence of sustained anxiety or depressive symptoms in older adults is sometimes a marker of incipient dementia.
- This connection is most likely due to a shared etiology, rather than depression or anxiety leading to cognitive decline.
- In cognitively normal older adults, a higher burden of brain amyloid beta is associated with increasing symptoms of anxiety and depression over five years.

(reviewed in: Ismail et al, International Psychogeriatrics 2017 Sep 13:1-12, also: Donovan et al, American Journal of Psychiatry 2018)

# FIRST, RULE OUT DELIRIUM:

## Dementia

- Gradually and slowly progressive over months to years
- Minor fluctuations over the course of the day or weeks



## Delirium – a medical emergency:

- Sudden onset: **anything sudden onset in an older person is delirium unless proven otherwise.**
- More dramatic **fluctuations** – However, the use of fluctuating mental status in the differential diagnosis is limited because **(a)** strong fluctuations are also a sign of dementia with Lewy bodies, **(b)** families often overstate symptom variability, and **(c)** some NPS, like explosive anger, are by their very nature episodic.
- Look for: recent medication change(s) or acute illness.

# ASSESSMENT OF THE OLDER PATIENT WITH COGNITIVE AND OR NEUROPSYCHIATRIC SYMPTOMS – LABS & TESTS:

1. Rule out medical problems with “memory **labs**”: complete metabolic panel, CBC, B12, folate, TSH, HIV, syphilis.
2. Brain **MRI** in some cases - do if change has been rapid, diagnosis unclear, and a recent fall is possible (r/o subdural hematoma).
3. Neuropsychological testing – if available, the patient and family are worried, deficits are subtle and/or complex.



# FROM DELIRIUM TO “REVERSIBLE CAUSES OF COGNITIVE IMPAIRMENT”

From most to least common in my practice:

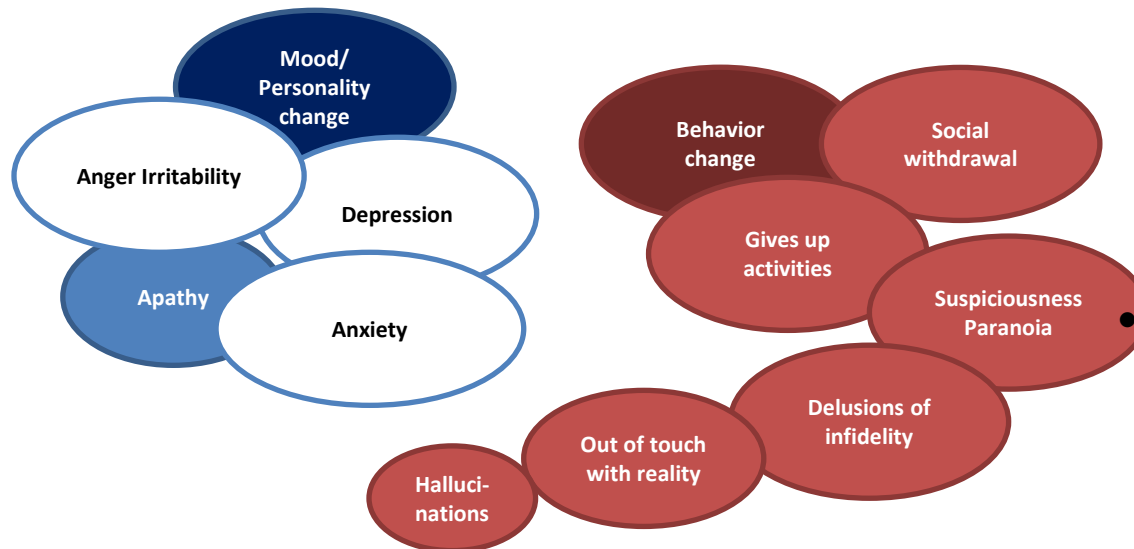
1. Depression and/or anxiety
2. General medical illness (“**brain fog**” of autoimmune disease, B12 deficiency)
3. Medications (e.g. anticholinergics)
4. Hypothyroidism
5. Sleep apnea (this does not have nearly as much of an effect on cognition as we like to believe)

**None of these conditions lead to marked cognitive impairment, unless delirium is present** (e.g. severe hypothyroidism). Hence, in a patient with a markedly abnormal MOCA, these are likely to be ancillary, and not causal conditions.

# WHY SUSPECT COGNITIVE CHANGE IF THE CHIEF COMPLAINT IS BEHAVIOR CHANGE ?

## Younger patient:

- Depression is, more often than not, the driver of social withdrawal and reduction in activities to the point of being perceived as apathetic by others.
- New onset psychotic symptoms are most likely caused by a primary psychiatric disorder.



## Older patient:

- Social withdrawal and giving up usual activities are often caused by cognitive impairment.
- Many dementias cause apathy in the absence of depression.
- Cognitive impairment can make usual activities effortful. Often patients feel ashamed of their deficits, anxious about their ability to manage challenging situations, and fear being “unmasked” in social situations.
- New onset psychotic symptoms in old patients are most likely caused by a neurocognitive disorder.

# THE COMPLEX RELATIONSHIP BETWEEN AGING, COGNITIVE CHANGE, DEPRESSION AND ANXIETY

- Age-related cognitive change reduces cognitive reserve, hence older adults may have higher vulnerability to the cognitive impairment associated with depression. This may lead to what textbooks have described as depressive “pseudodementia”...
- **BUT:** unless the patient is catatonically depressed, depression alone accounts for no more than ~4 points loss on the MOCA.
- The cognitive impact of depression or anxiety typically manifests as “**scattered deficits**” on an almost normal MOCA (or on neuropsychological testing).
- Depression or anxiety can be prodromal signs of cognitive change, due to a shared etiology.
- Cognitive change is a potent driver of depression and anxiety (mediated by fear of dementia, perception of deficits, and reduction in activity level).



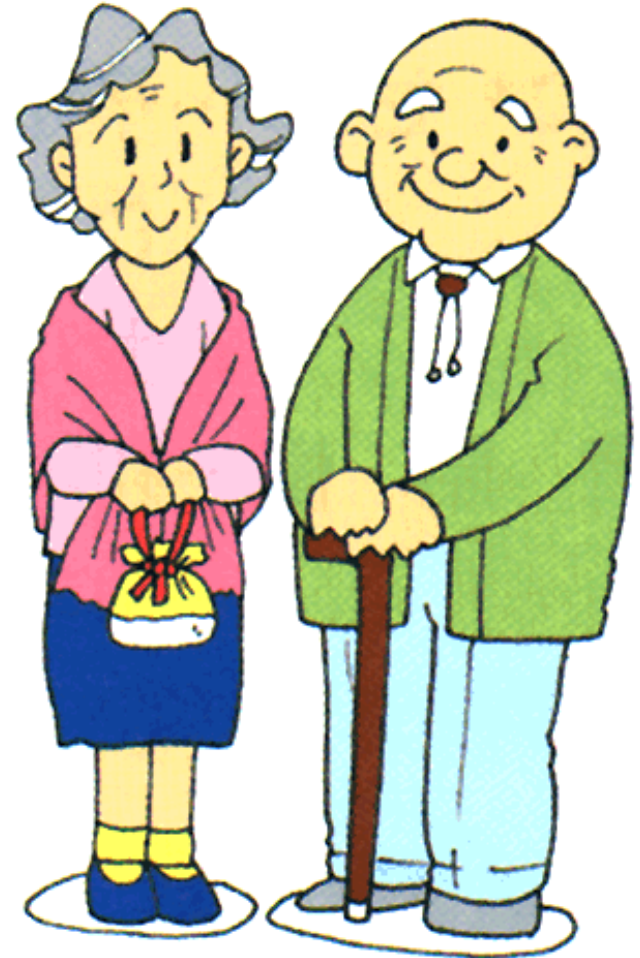


Section 3 (of 3):

# **SYMPTOM CONSTELLATIONS: WHAT IS MY DIAGNOSIS ?**

# THE MOST COMMON DEMENTIAS:

- Alzheimer's disease
- Dementia with Lewy bodies
- Parkinson's disease dementia
- Vascular dementia
- Frontotemporal dementia (can affect people as young as in their 30s)



# ALZHEIMER'S DISEASE – MOST COMMON

## (1/3 OF PEOPLE OVER AGE 85)

### Key presenting symptoms

- Strongly reduced ability to make new memories, leading to:
  1. Repeated identical questions
  2. Re-telling the same story multiple times
- Word finding difficulties
- Giving up prior activities (socializing, reading, house work, computer)

### ...often misdiagnosed as:

- **Depression**

Family members wonder about depression as the cause of social withdrawal or reduced engagement in activities.

- **Inattention**

Spouses complain about their husband/wife not listening to them.

# ALZHEIMER'S DISEASE – MOST COMMON DEMENTIA

## (AFFECTS 1/3 OF PEOPLE OVER AGE 85)

### Key presenting symptoms

- Strongly **reduced ability to make new memories**, leading to:
  - Repeated identical questions
  - Re-telling the same story multiple times
- Word finding difficulties**
- Giving up prior activities (socializing, reading, house work, computer)

### Typical MOCA pattern

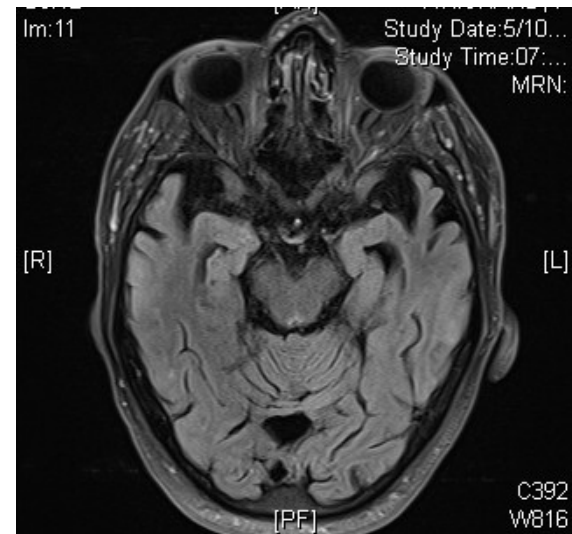
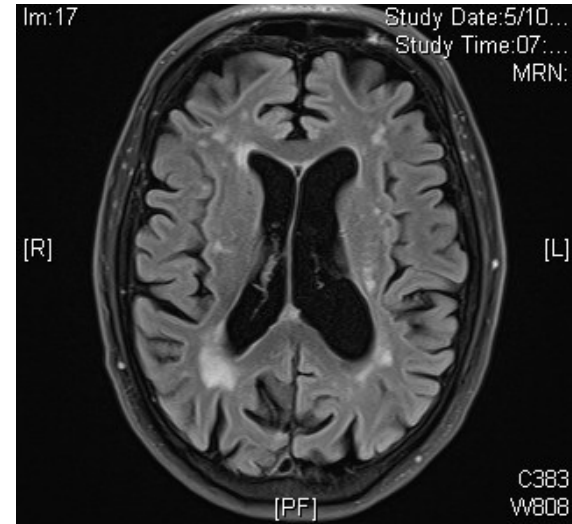
MONTREAL COGNITIVE ASSESSMENT (MOCA)

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

VISUOSPATIAL / EXECUTIVE		Copy cube	Draw CLOCK (Ten past eleven) (3 points)	POINTS			
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> / 5			
NAMING					<input type="checkbox"/>		
MEMORY	Read list of words, subject must repeat them. Do 2 trials. Do a recall after 5 minutes.	FACE 1st trial 2nd trial	VELVET 1st trial 2nd trial	CHURCH 1st trial 2nd trial	DAISY 1st trial 2nd trial	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	<input type="checkbox"/>			<input type="checkbox"/> / 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		<input type="checkbox"/>			<input type="checkbox"/> / 1		
Series of 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		<input type="checkbox"/>			<input type="checkbox"/> / 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. [ ]	<input type="checkbox"/>			<input type="checkbox"/> / 2		
Fluency: Name maximum number of words in one minute that begin with the letter F [ ] _____ (N ≥ 11 words)		<input type="checkbox"/>			<input type="checkbox"/> / 1		
ABSTRACTIO	Similarity between e.g. banana - orange = fruit [ ] train - bicycle [ ] watch - ruler	<input type="checkbox"/>			<input type="checkbox"/> / 2		
DELAYED RECALL	Has to recall words WITH NO CUE Category cue Multiple choice cue	FACE [ ] [ ]	VELVET [ ] [ ]	CHURCH [ ] [ ]	DAISY [ ] [ ]	RED [ ] [ ]	Points for UNCUED recall only
Optional	Multiple choice cue	<input type="checkbox"/>			<input type="checkbox"/> / 5		
ORIENTATION	[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City	<input type="checkbox"/>			<input type="checkbox"/> / 6		
© Z.Nasreddine MD Version November 7, 2004 www.mocatest.org		Normal ≥ 26 / 30 TOTAL Add 1 point if ≤ 12 yr edu			<input type="checkbox"/> / 30		

# VASCULAR DEMENTIA

- Destruction of brain tissue by cerebrovascular disease
- More varied presentation than Alzheimer disease – scattered deficits on the MOCA
- **Often co-occurs with Alzheimer disease** (as in the MRI on the right).



# PSYCHIATRIC SYMPTOMS THAT OFTEN ACCOMPANY ALZHEIMER'S DISEASE OR VASCULAR DEMENTIA:



- Depression
- Anxiety
- Apathy
- Irritability, frustration, anger
- **Delusions:** most commonly of items being stolen; other forms of paranoid ideation and delusions of spousal infidelity are also somewhat common

## Caveats:

1. Caregivers often refer to any hard-to handle behavior as “agitation” – which can be all of the above (except apathy), or just the patient acting disorganized out of confusion.
2. Families sometimes use the word “hallucinations” to describe general confusion, or delusions.

**Frequency of (non-apathy) psychiatric symptoms in dementia:** 60-90%, increasing in prevalence and severity with worsening cognitive impairment up to the point where severe functional impairment limits expression and behavior of any kind.

# DEMENTIA + PARKINSON'S

## Lewy Body Dementia

- Dementia precedes the onset of Parkinson symptoms.
- Strongly **fluctuating symptoms** (DD – psychiatric/volitional)
- **REM sleep disturbance** (DD – nightmares)
- **Visual hallucinations** (DD – psychotic illness)

## Parkinson's Disease

- Parkinson symptoms precede the onset of dementia – most likely not your responsibility to diagnose.

# FRONTOTEMPORAL DEMENTIA

- Can affect young patients.
- **Behavioral variant** vs. progressive aphasia.
- Behavioral variant is often misdiagnosed as bipolar disorder, personality disorder, depression.
- Prominent symptoms (differ by patient): **disinhibition, impulsivity, hyper-sexuality, change in food preference to sweet or salty snacks, loss of empathy, apathy, psychomotor slowing.**
- In the behavioral variant, marked personality and/or psychomotor change often precedes marked cognitive change.



# BIZARRE VISUAL SYMPTOMS IN A MIDDLE-AGED OR OLDER PATIENT:

- Visual hallucinations – psychosis vs. dementia with Lewy bodies
- **Posterior cortical atrophy variant of Alzheimer's disease:** younger onset than regular AD, may present with visual symptoms such as **bizarre visual distortions, being unable to recognize objects, loss of ability to read - often misunderstood as eye problem or factitious disorder.** Visual-spatial difficulties on the MOCA.

# NEXT TIME (3-1)

Interventions – or: What do I do about any of this?

