Beyond AVPU: Using Mental Status Exams in the Prehospital Environment

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LOTS of causes of significant cognitive impairment

Lots of obvious symptoms

The extremes are always easy.

It's the gray areas we have to worry about.

Why is this a problem?

Mild cognitive impairment (MCI) is common

10%-20% of those over 60

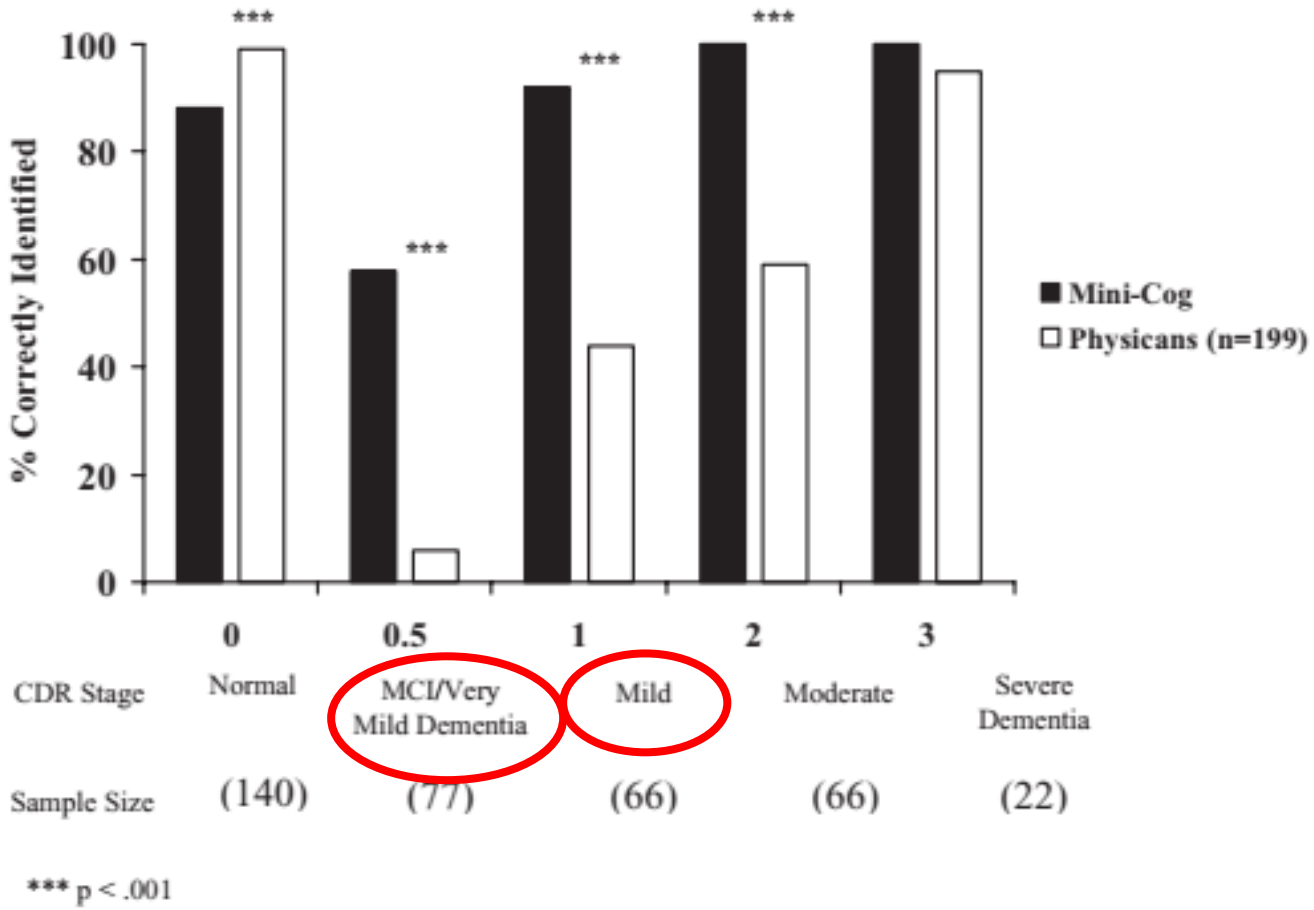
42% of type 2 diabetics

and...

We often miss even the obvious cases

Only 38% cases of MCI identified in an emergency department.

MCI in Primary Care



So what?

There are consequences
for getting it wrong.

May not have the capacity to RMA.

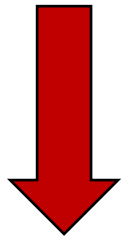
May not be able to comply with the RMA conditions.

May not be able to provide a valid medical history.

How can we tell?

Our most common tool isn't sensitive enough for the job.

AVPU/ GCS



A V P U

We can do better.

And we need to.

Mental Status Exam (MSE)

Agenda

- 60 minutes
- Questions at the end

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What I'm going to Cover Today

I. Strategies for the MSE
II. Good prehospital MSEs
III. The process of assessing mental status in the prehospital environment

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I. Strategies for the MSE

The MSE: General Observations

- Appearance and behavior
- Mood and affect
- Motor activity

The MSE: Cognitive functioning

- Attention
- Executive functioning
- Gnosia
- Language
- Memory
- Praxis
- Prosody
- Thought content
- Thought processes
- Visuospatial proficiency
- Orientation

“But I don’t have time for all that…”

You and me both.

So what are the alternatives?

Have to balance
comprehensiveness with
ease of administration

e.g., length, props,
physical limitations

2 approaches:

1. Ad hoc testing

Mostly orientation questions

But these often miss important domains

Particularly recall memory

2. Brief structured MSEs

Advantages of brief structured MSEs

- Correlated with longer comprehensive MSEs
- Sensitive to mild cognitive impairment
- Have norms and cutoff scores

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The two best prehospital MSEs:

1. Quick Confusion Scale (QCS)

1. What year is it now?

2. What month is it?

Repeat this phrase after me and remember it:

4. About what time is it?

5. Count backwards from 20 to 1.

6. Say the months in reverse.

6. Repeat the memory phrase.

QCS Scoring

Item	Response Score	Weight	Score
Year	0-1	2	
Month	0-1	2	
Time	0-1 (within 1 hour)	2	
Counting	0-2 2 or more errors, 1, none	1	
Months	0-2 2 or more errors, 1, none	1	
Recall	0-5 John Brown 42 Market St. New York	1	
			0-15

QCS scoring

- **12-15**: No impairment
- **8-11**: Mild impairment
- **0-7**: Substantial impairment

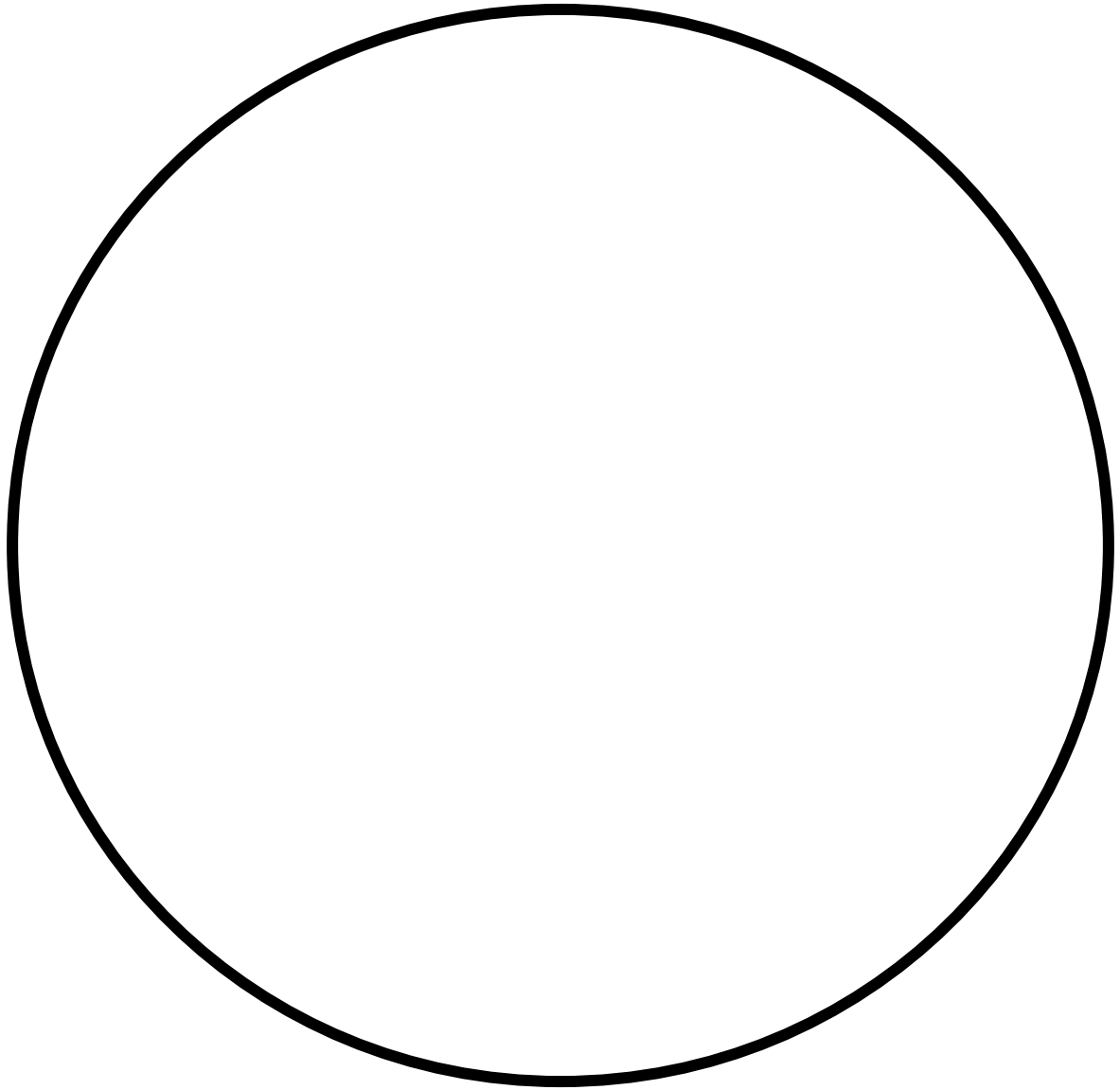
QCS

- Assesses orientation, memory, attention
- 2 ½ minutes to complete
- Purely verbal
- Correlated with full MSE

2. Mini-Cog

1. Remember three words:

2.

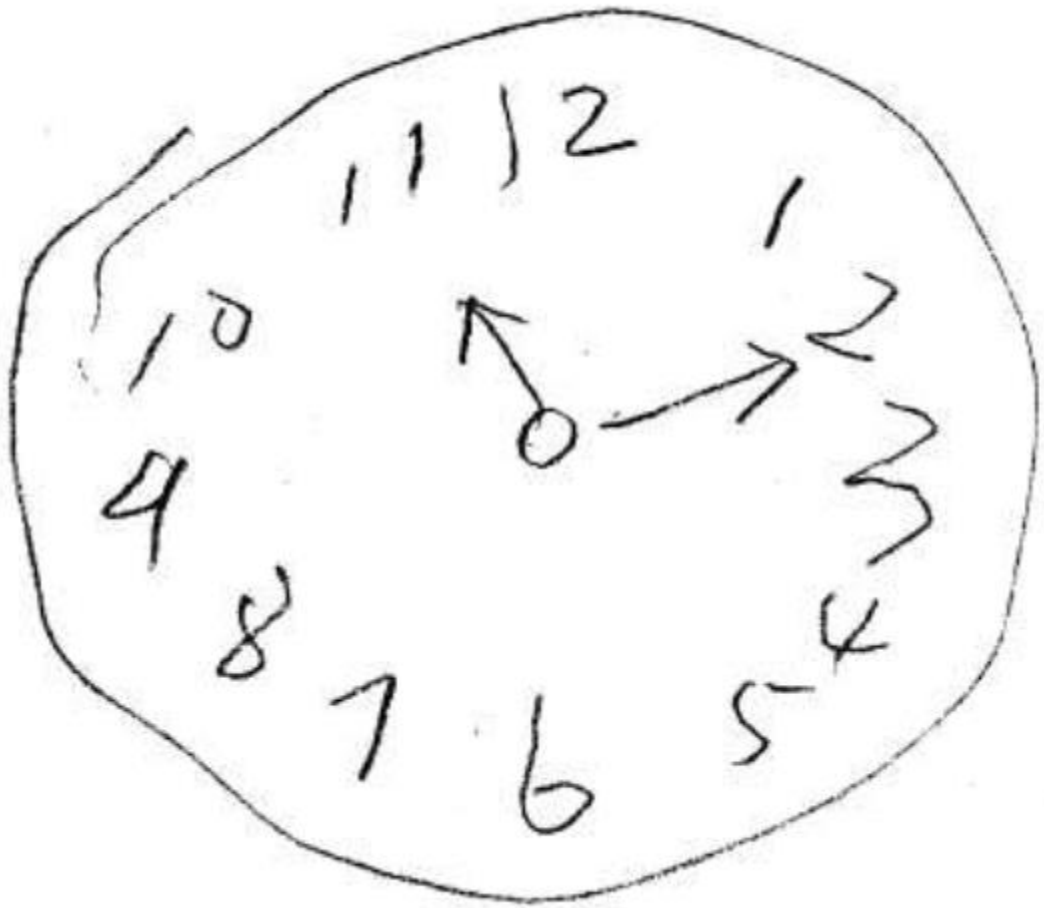


3. What were those three words?

Mini-Cog scoring

- Memory (0-3): 1 point for each word spontaneously recalled without cueing
- Clock (0 or 2)
  - Normal clock = 2 points.
    - All numbers placed in the correct sequence and approximately correct position
    - 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 = 0 points

Normal clock



Abnormal clocks

Mini-Cog scoring

- Memory (0-3): 1 point for each word spontaneously recalled without cueing
- Clock (0 or 2)
  - Normal clock = 2 points.
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    - Hand length is not scored.
  - Inability or refusal to draw a clock = 0 points

Mini-Cog scoring

- **4-5**: No impairment
- **3**: Possible impairment
- **0-2**: Probable impairment

Mini-Cog

- Assesses memory, visuospatial functioning, motor functioning
- 3 minutes to complete
- Needs paper, pencil, and writing surface
- Correlated with full MSE

How easy are these?

There’s no excuse to not use them

III. The Process

Discuss this with your medical control.

My recommendations:

1. Use AVPU/ GCS

All patients

2. MSE in suspect cases

Looking for mild cognitive dysfunction

Use a MSE

- RMAs
- Intoxication
- Head injury
- Age 55 and over
- Anywhere else where something feels off

QCS, followed by the Mini-Cog if needed

3. Emphasize the results in your handoff

As I finish up…

We're good at detecting serious cognitive impairment.

We're horrible at detecting mild cognitive impairment.

Missing even mild cognitive impairment has consequences.

Legal, medical

Brief structured MSEs can help

Easy to administer and interpret

This is one the biggest “bang for the buck” tools you can use.

So use them.

Thank you.

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