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# JOURNAL CLUB

Chou KL, Amick MM, Brandt J, Camicioli R, Frei K, Gitelman D  
et al.

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**A RECOMMENDED SCALE  
FOR COGNITIVE SCREENING  
IN CLINICAL TRIALS OF  
PARKINSON'S DISEASE**

# Why this particular article?

- ž A comprehensive comparison of different cognitive screening tests for use in PD patients
- ž The results applicable in everyday clinical use

# Background

- ž Cognitive impairment is common in PD
- ž The majority of PD patients develop dementia in the later stages
- ž A growing interest in the effects of medical and surgical therapies on cognitive dysfunction in PD patients

# Key issue

- ž What is the most suitable cognitive screening tool for use in PD trials not primarily focused on cognition?

# Methods – 1

- Primary inclusion criteria of candidate scales:
  - Previously studied in a PD population
  - Should stand alone in clinical trials
  - Administration completed within 15 minutes
  - The assessment of all major cognitive domains
- Secondary criteria:
  - Evaluated in studies independent of its original developer
  - The availability of psychometric performance data for PD

# Methods – 2

- ž to January 2009
- ž A total of 353 articles retrieved and examined
- ž A written final draft including recommendations

# Results

ž 10 scales considered, 5 included:

- o Mini-Mental State Examination (MMSE)
- o Montreal Cognitive Assessment (MoCA)
- o Mini-Mental Parkinson (MMP)
- o Parkinson Neuropsychometric Dementia Assessment (PANDA)
- o Scales for Outcomes in Parkinson`s Disease – Cognition (Scopa-cog)



# MMSE

- 0 The most widely used
- 0 Not developed specifically for PD patients
- 0 Orientation, registration and short-term recall, attention and concentration, language, visuospatial function
- 0 Takes 10 min
- 0 Measures cognitive change over time
- 0 No measurement of executive functions
- 0 Relatively insensitive to mild cognitive changes

# MoCA

- o Originally developed to screen for MCI
- o Takes 10 minutes
- o Covers executive functions
- o Clock drawing task – visuospatial function
- o Executive functions – trail making test, phonemic fluency, verbal abstraction task
- o Particularly sensitive to the mild cognitive changes in PD
- o Not properly validated naming task

# MMP

- 0 Developed specifically for PD patients
- 0 More sensitive to detecting the mild cognitive deficits in PD than MMSE
- 0 Takes 10 minutes
- 0 No assessment of language
- 0 Limited data on psychometric performance in PD

# PANDA

- 0 Takes 10 minutes
- 0 To detect subtle cognitive impairment and dementia in PD patients
- 0 Screens for depressive symptoms
- 0 More sensitive than MMSE for detecting cognitive impairment in PD patients
- 0 No assessment of language, orientation and visual construction

# SCOPA-cog

- 0 PD-specific scale
- 0 To compare groups in research settings
- 0 Takes 10 to 15 minutes
- 0 Specific tasks of executive function
- 0 Not extensively used in PD patients

## Evaluation criteria met for the reviewed scales

	MMSE	MoCA	MMP	PANDA	SCOPA-cog
Used in PD population	√	√	√	√	√
Could stand alone as minimum assessment	√	√	√	√	√
Administration in <15 min	√	√	√	√	√
Assesses the major cognitive domains	x	√	x	x	x
Can identify subtle cognitive impairment in PD	x	√	√	√	√
Used in studies beyond original developers	√	√	√	x	√
Psychometric data available in PD	√	√	√	√	√
The recommended scale should meet all primary criteria.					

# What have we learned?

- The usefulness of the MoCA for detecting even subtle cognitive impairment in PD patients
- The importance of detecting the impairment of all major cognitive domains (especially executive function)
- The MoCA as a minimum standard cognitive screening test in clinical trials of PD
- The current lack of data regarding sensitivity to change over time and to treatment in the MoCA
- PD-Cognitive Rating Scale (PD-CRS) as the optimal PD-specific scale for detecting early cognitive deficits in PD and tracking the transition to PD dementia (Kulisevsky et al., 2009) – skipped due to time frame (>17 min)

# Study drawbacks?

- ž Since it is a review...
- ž The composition of the Task Force?
- ž The evaluation criteria?



# What does the paper add to the current knowledge?

- ž Additional data on the appropriateness of measure for use in PD trials not primarily focused on cognition

# Clinical applications

- ž Guidelines applicable to everyday clinical practice

**MONTREALSKA LESTVICA SPOZNAVNIH SPOSOBNOSTI (MoCA)**

IME : \_\_\_\_\_ Datum rojstva : \_\_\_\_\_  
 Izobrazba : \_\_\_\_\_ Datum preizkusa : \_\_\_\_\_  
 Spol : \_\_\_\_\_

**VIDNO PROSTORSKE/ IZVIŠINE**

5 (Konec) A B 2  
 1 (Začetek)  
 D 4 C 3  
 [ ] [ ]

Preišite kocko [ ]

Narišite URO (naj kaže deset čez enajst) (3 točke)

[ ] [ ] [ ]  
 Oblika Številke Kazalca

\_\_\_/5

**POIMENOVANJE**

[ ]

[ ]

[ ]

\_\_\_/3

S P O M I N	Preberite seznam besed, preiskovanec naj jih ponovi za vami. Opravite dva poskusa, tudi če je bil prvi povsem uspešen.	OBRAZ	ŽAMET	CERKEV	MARJETICA	RDEČ	Ni točk
1. poskus							
2. poskus							

POZORNOST	Preberite seznam števil (1 številka / sekundo)	Preiskovanec naj jih ponovi v enakem vrstnem redu	Preiskovanec naj jih ponovi v obratnem vrstnem redu	[ ] 2 1 8 5 4	[ ] 7 4 2	___/2
Berite seznam črk. Preiskovanec naj potolče z roko, kadar koli sliši črko A. Ni točk ≥ 2 napaki.	[ ] 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

JEZIK	Ponovite: "Vem samo, da je danes Peter na vrsti za pomagat." [ ] "Mačka je vedno zbežala pod ka vč, kadar so bili v sobi psi." [ ]	Fluentnost: V eni minuti naj pove čimveč besed, ki se začnejo na črko S: [ ] _____ (N ≥ 11 besed)	___/2
Zaporedno odštevanje po 7, začne pri 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65	4 ali 5 pravih odštevanj : 3 točk, 2 ali 3 pravih : 2 točk, 1 pravih : 1 točka, 0 pravih : 0 točk		___/3

ABSTRAKCIJA	Kaj imata skupnega banana - pomaranča (= sadje) vlak - kolo [ ] ura - ravnilo [ ]	___/2																					
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**THANK YOU!**