general assessment series

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Best Practices in Nursing Care to Older Adults

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Series Editor: Marie Boltz, PhD, GNP-BC
Series Co-Editor: Sherry A. Greenberg, MSN, GNP-BC
New York University College of Nursing

Mental Status Assessment in Older Adults: Montreal Cognitive Assessment: MoCA Version 7.1 (Original Version)

By: Deirdre M. Carolan Doerflinger, CRNP, PhD
Inova Fairfax Hospital, Falls Church, VA

WHY: The incidence of mild cognitive impairment (MCI) increases with age ranging from 7% to 38% (2011 Alzheimer's disease Facts and Figures). Older adults with MCI have as high as 14% higher risk of developing Alzheimer's dementia (2011 Alzheimer's disease Facts and Figures). While studies have shown that treatment with an acetylcholinesterase inhibitor prior to progression has delayed dementia onset by 3 years, currently there is no endorsed treatment recommendations for MCI.

BEST TOOL: The Montreal Cognitive Assessment (MoCA© Version 7.1) was developed as a quick screening tool for MCI and early Alzheimer's dementia. It assesses the domains of attention and concentration, executive functions, memory, language, visuoconstructional skills, conceptual thinking, calculations, and orientation. There are two alternative MoCA© forms (Version 7.2 and 7.3) available in an effort to decrease possible learning effects when used repeatedly (Phillips et al., 2011). The MoCA© has been tested extensively for use in a variety of disorders affecting cognition such as HIV, Huntington's chorea, Multiple Sclerosis, Parkinson's disease, stroke, vascular dementia, and substance abuse in addition to the well older adult. It has been tested in 14 different languages, ages ranging from as young as 49 in two reports to old-old (85+) with a variety of education levels. The total possible score is 30 points with a score of 26 or more considered normal. To better adjust the MoCA for lower educated individuals, 2 points should be added to the total MoCA score for those with 4-9 years of education and 1 point for 10-12 years of education (Johns et al., 2010). The score range for MCI is 19-25.2 and for Alzheimer's dementia 11.4-21. While the score ranges overlap, differentiation between the conditions is dependent upon associated functional impairment. A modified version, MoCA-B, has been developed for use in visual impairments.

TARGET POPULATION: The MoCA can be used in a variety of settings from primary care to acute care. It may be used in culturally diverse populations, a variety of ages and differing educational levels.

VALIDITY AND RELIABILITY: The MoCA detected MCI with 90%-96% range sensitivity and specificity of 87% with 95% confidence interval. The MoCA detected 100% of Alzheimer's dementia with a specificity of 87%.

STRENGTHS AND LIMITATIONS: The MoCA takes approximately 10 minutes to administer. It is accessible via the MoCA© website, http://www.mocatest.org/ with clear administration and scoring instructions (refer to website for copyright information). All these items, test, instructions and scoring are available in 36 languages. There is some recent research suggesting that lowering the threshold score to 23 may prevent over identification of normal individuals. It has been tested in a variety of settings and populations and displayed accuracy in identification of MCI and Alzhiemer's dementia.

FOLLOW-UP: The U.S. Preventative Services Task Force in 2003, made no formal recommendations for screening for dementia. The American Academy of Neurology (2001) determined that there is not sufficient evidence to recommend cognitive screening of asymptomatic individuals. This guideline is currently under revision. The American Medical Association (2003) and the American Academy of Family Physicians (2001) recommend that health care providers be alert for cognitive and functional decline in elderly patients for recognition of dementia in its early stages. Annual screening, as a component of the annual physical, is realistic.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGeriRN.org.
MoCA website: http://www.mocatest.org/.

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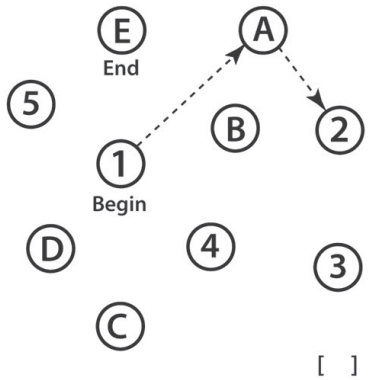
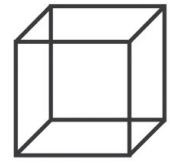
MONTREAL COGNITIVE ASSESSMENT (MOCA)

Version 7.1 Original Version

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

VISUOSPATIAL / EXECUTIVE





Copy cube

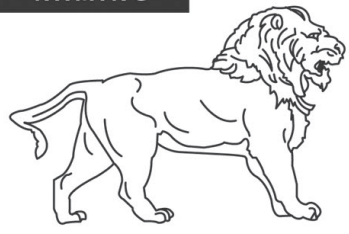
[ ] [ ]

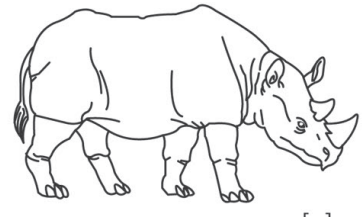
Draw CLOCK (Ten past eleven)
(3 points)

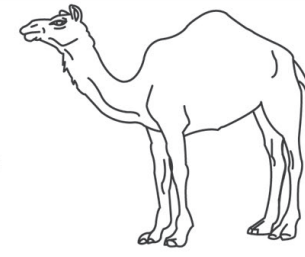
[ ] Contour [ ] Numbers [ ] Hands

POINTS ___/5

NAMING







[ ] [ ] [ ] ___/3

MEMORY

Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. 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 [ ]	Points for UNCUED recall only
Optional	Category cue						
	Multiple choice cue						

___/5

ORIENTATION

[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City ___/6

© Z.Nasreddine MD **www.mocatest.org** Normal ≥ 26 / 30

TOTAL ___/30

Add 1 point if ≤ 12 yr edu

Administered by: _____