

## Cognitive-Function Screening

Dementia is a disease of advancing age, and one in eight older Americans has dementia due to Alzheimer's disease.<sup>1</sup> The lifetime risk of developing Alzheimer's is 17.2% in women and 9.1% in men.<sup>1,2</sup> Alzheimer's dementia, which comprises 60-80% of all cases of dementia, is now the 6th leading cause of death.<sup>3</sup>

Risk factors for developing dementia include:

- Advanced age
- Female gender
- A family history of 1st-degree relatives with dementia
- Lower socioeconomic status
- Cardiovascular risk factors also are risk factors for dementia and are modifiable such as hypertension, hypercholesterolemia, type 2 diabetes, obesity, tobacco use and physical inactivity
- History of Mild Cognitive Impairment

### Cognitive Testing

Detection of any Cognitive Impairment now is a requirement for reimbursement of the Initial Annual Wellness Visit (AWV) with Personalized Prevention Plan of Service (PPPS) (HCPCS code G0438) as well as the Subsequent AWV with PPPS (G0439).

### Mild Cognitive Impairment

The diagnosis of Mild Cognitive Impairment (ICD-9-CM code 331.83) requires evidence of (1) a decline in memory and (2) a decline of at least one of the following cognitive abilities:

- Ability to generate coherent speech or understand spoken or written language
- Ability to recognize or identify objects, assuming intact sensory function
- Ability to execute motor activities, assuming intact motor abilities, sensory function and comprehension of required tasks
- Ability to think abstractly, make sound judgments and plan and carry out complex tasks<sup>4</sup>

### Dementia

For dementia to be diagnosed, *in addition to meeting the criteria for mild cognitive impairment, the cognitive deficits must be severe enough to interfere with daily life.*<sup>2,4</sup> Therefore, the primary care physician must screen the patient for abilities to perform activities of daily living, interview family members or caregivers and document these findings.

### Documentation and Coding

Three factors to consider when documenting dementia include:

1. Type of dementia - there are many types listed under dementia in ICD-9-CM (Alzheimer's, dementia with Lewy bodies, frontal, senile, vascular, etc.)
2. Document any associated conditions (history of stroke, neurological conditions, associated epilepsy, etc.)
3. Document any associated behavioral disturbance (aggressive, combative or violent behavior or wandering [V40.31]).

#### SIX ITEM COGNITIVE IMPAIRMENT TEST (6CIT)

1. What year is it? <input type="text" value="0"/> <input type="text" value="4"/> <input type="text"/>	5. Count backwards from 20 to 1 <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text"/>
CORRECT INCORRECT SCORE	CORRECT 1 ERROR 1+ ERRORS SCORE
2. What month is it? <input type="text" value="0"/> <input type="text" value="3"/> <input type="text"/>	6. Months of the year backwards <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text"/>
CORRECT INCORRECT SCORE	CORRECT 1 ERROR 1+ ERRORS SCORE
3. Ask patient to remember the following address: John Brown 42 West Street Bedford  <i>(Make sure patient can repeat address properly and inform him/her that you will ask him for it later.)</i>	7. Repeat previous memory phrase (address in # 3) <input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value="4"/> <input type="text"/> CORRECT 1 ERROR 2 ERRORS SCORE <input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="10"/> 3 ERRORS 4 ERRORS ALL INCORRECT
4. What time is it? <input type="text" value="0"/> <input type="text" value="3"/> <input type="text"/>	Add all scores. <input type="text"/>
CORRECT INCORRECT SCORE	TOTAL SCORE: <input type="text"/>
SCORING: 0 - 7 Normal • 8 - 9 Mild Cognitive Impairment (consider referral) • 10 - 28 Significant Cognitive Impairment (refer)	

1. B.L. Plassman, Prevalence of Dementia in the United States: The Aging, Demographics, and Memory Study, *Neuroepidemiology* 2007;29:125-132.  
 2. 2011 Alzheimer's Disease Facts and Figures. Alzheimer's Association. [http://www.alz.org/downloads/Facts\\_Figures\\_2011.pdf](http://www.alz.org/downloads/Facts_Figures_2011.pdf)  
 3. Deaths: Preliminary Data for 2009. Centers for Disease Control. [http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59\\_04.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_04.pdf).  
 4. Brooke P, Bullock R: Validation of 6-Item Cognitive Impairment Test with a view to primary care usage. *Int J Gen Psychiatry* 14: 936-940. 1999

# Six Item Neurocognitive Impairment Assessment

Patient Name: \_\_\_\_\_ Age: \_\_\_\_\_ Initial Examination Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

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Question	Score Range	Error Score		
		Date	Date	Date
1. "What year is it?"	Correct- 0 points Error- 4 points			
2. "What month is it?"	Correct-0 points Error- 3 points			
Give patient a name and address phrase to remember <b>John/ Smith/ 42/ High Street/ Bedford</b> Alternate <b>Steven/ Jones/ 24/ Main Street/ Salem</b>				
3. "About what time is it?" (within 1 hour)	Correct-0 points Incorrect- 3 points			
4. "Count backwards from 20 to 1"	Correct-0 points One Error- 2 points Two/More Errors- 4 points			
5. "Say the months of the year in reverse"	Correct-0 points One Error-2 points Two/More Errors- 4 points			
6. "Please repeat back the name and address I gave you" <b>John/ Smith/ 42/ High Street/ Bedford</b> Alternate <b>Steven/ Jones/ 24/ Main Street/ Salem</b>	Correct-0 points 1 Error-2 points 2 Errors-4 points 3 Errors-5 points 4 Errors-8 points 5 Errors-10 points			
<b>Total Error Score</b>		<i>128</i>	<i>128</i>	<i>128</i>

**Total Error Score Interpretation:**

- 0-7/ 28 = Within Normal Limits
- 8-9/ 28 = Mild Neurocognitive Impairment
- 10-28 /28 = Major Neurocognitive Impairment

References

Blessed G., Tomlinson, B.E., Roth, M. (1968). The association between quantitative measures of dementia and of senile change in the cerebral grey matter of elderly subjects. *Br J Psychiatry*, 114(512), 797-811

Brooke, P, Bullock R. (1999). Validation of a 6-item cognitive impairment test with a view to primary care usage. *Int J Geriatric Psychiatry*, 14(11), 936-940