

The Memory Impairment Screen

Memory Impairment Screen (MIS) evaluates episodic memory of an elderly person. This instrument is similar to the five-word test.

What does the test consist of?

The examiner shows a sheet on which is written a series of 4 words that do not belong to the same category cues (we say that these words belong to different semantic categories). For example:

1. Tomato
2. Hammer
3. Cod
4. Tulip

The subject is asked to read aloud these four words from a **printed** page. Then he is asked to identify each word that matches the category cue - e.g. *'what is the vegetable?', 'what is the tool?'* etc.

The examinee then performs an interference task that lasts 2 to 3 minutes in order to distract the patient's attention. e.g. *ask the patient to count backwards from 20 to zero.*

Then the examiner asks the patient to identify the four words that were previously shown (this is called 'the free recall').

The examiner presents category cues for *only* those words not recalled freely (this is called 'the cued recall').

The MIS Score

2 points are attributed for each remembered word without the assistance of the examiner. This is the free-recall scoring.

1 point is attributed for each remembered word with the assistance of the examiner. This is the cued recall scoring.

Total score = [(2 x free) + cued] remembered words. It ranges from 0 to 8.

A score below or equal to 4 indicates a high probability (above 60%) that the individual suffers from Alzheimer's disease.

The advantages of MIS test

1. Simplicity: 4 words have to be remembered with or without a cue.
2. Quickness: 4 minutes are necessary to achieve this test.
3. Sensitivity: The MIS has higher sensitivity than the free recall task of the Mini-mental examination test. However, this test cannot distinguish a non-cognitively impaired person from one that suffers from mild cognitive impairment or a depressed person.

The importance of the cued recall

An elderly person without any notable memory deficit may have some difficulties to remember one or two words but will not have any trouble to identify them with the help of a clue: although the free recall may be weak, the cued recall will be good.

However, a patient with Alzheimer's disease still forgets target words even with the assistance of a clue: free and cued recalls are bad. A loss of neurons in the temporal lobe (a loss that is typical of Alzheimer's disease) explains these poor results.

Stephanie Bastianetto, Ph.D. December 2004

Notices

1 Memory is the main cognitive function. There are various forms of memories, including "episodic memory". Episodic memory encompasses events and facts that are experienced by an individual who is capable of localizing these memories in time and space.

Busche, H., et al, (1999) Screening for dementia with the Memory Impairment Screen. *Neurology*, 52, 231-238.