

Assessment Details

ID: 574983

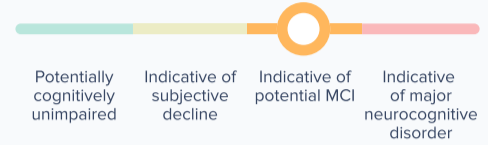
Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 1 / 10

Assessment Summary

Indicative of potential amnesic mild neurocognitive disorder, based on DSM-5 criteria. Additional clinical interpretation required.



DSM-5 Criteria

- Subjective cognitive decline: ■ **Reported**
- Objective cognitive impairment: ■ **Detected**
- Objective cognitive decline: ■ **Detected**
- Functional dependence: **Not reported**

Other Considerations

- Anxiety: **None-Minimal**
- Depression: **None-Minimal**

Results

DSM-5 Criteria	Result	Definition
Subjective Cognitive Decline IQCODE-SR	■ Reported (3.38)	Expressed concern of the patient, informant or clinician that there has been a significant decline in cognition from their previous level of performance, documented by standardized testing.
Objective Cognitive Impairment Creyos Cognitive Assessment	■ Potential memory and reasoning impairments	An impairment in one or more cognitive domains, confirmed by standardized neurocognitive testing.
Objective Cognitive Decline Creyos Cognitive Assessment	■ Potential memory and reasoning declines	Meaningful decline in one or more categories of cognitive performance, determined using longitudinal standardized test results.
Functional Dependence IADL	High function, independent (8/8)	Functional independence is a criterion for mild cognitive impairment diagnosis. Deficits uncovered warrant exploration, as they may be an indicator of major neurocognitive disorder.
Neuropsychiatric Symptoms	Result	Definition
Generalised Anxiety Disorder Assessment GAD-7	Minimal symptoms reported (1/21)	Individuals diagnosed with anxiety may experience cognitive impairments, requiring it to be ruled out as the primary cause of cognitive impairment prior to MCI diagnosis.
Patient Health Questionnaire PHQ-9	Minimal symptoms reported (1/27)	Individuals diagnosed with depression may experience cognitive impairments, requiring it to be ruled out as the primary cause of cognitive impairment prior to MCI diagnosis.

Summary

Individuals diagnosed with amnesic mild neurocognitive disorder by a qualified medical professional may have memory difficulties that they are aware of and that interfere with daily activities, however, they may not necessarily prevent functional independence. Non-memory cognitive issues may also be present. Depression and anxiety were not reported, however, criteria for mild neurocognitive disorder require ruling out delirium and other mental disorders as a cause for deficits as well. Mild neurocognitive disorder does not always lead to further decline or dementia. Next steps may include a cognitive care plan, monitoring for changes, and/or referral to a specialist for further testing.

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 2 / 10

Cognitive Assessment Details

Memory

Indicative of potential memory domain impairment and decline.

Short-term memory is the ability to retain, manipulate, and recall information for a short period of time. Some types of cognitive decline, known as amnesic, are characterized by deficits in the memory domain.

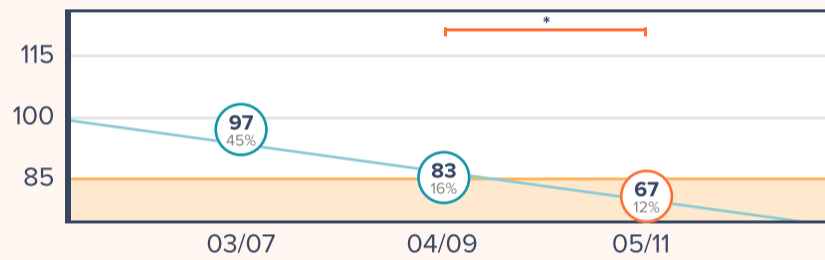


Visuospatial Working Memory

Number Ladder

A measure of visuospatial working memory — the ability to remember information about objects in space, and update memory based on changing circumstances.

- Below typical range**
- Meaningful decline from last test**

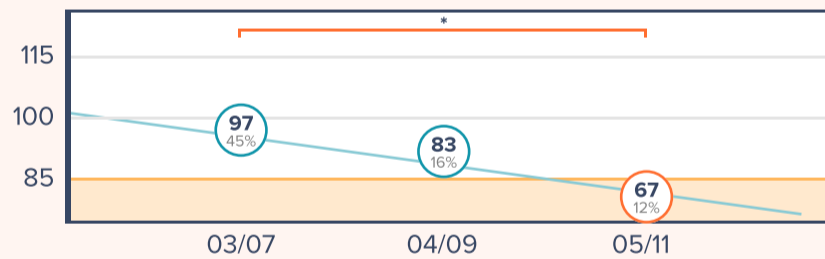


Episodic Memory

Paired Associates

A measure of episodic memory — the ability to remember specific events, paired with the context in which they occurred.

- Below typical range**
- Meaningful decline from baseline**



Legend: ■ Below Typical Range (-1σ) — Trend Line
⌈ Meaningful Decline: statistical thresholds used are based on a two-tailed analysis, $p < 0.2$.

The DSM-5 criteria for mild neurocognitive disorder require impairment in one or more domains. If two tasks within a domain are below the typical range, this domain may be impaired. Below typical performance in two or more tasks across different domains may indicate multi-domain impairment. Task scores below the 15.9th percentile are more than 1 standard deviation (-1σ) below average, and are considered below the typical range.

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

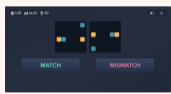
Page 3 / 10

Cognitive Assessment Details

Reasoning

Not indicative of potential reasoning domain impairment or decline.

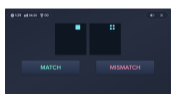
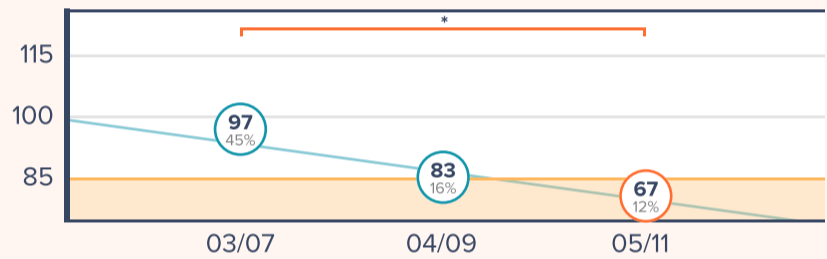
Reasoning is the ability to transform information according to logical rules and make good decisions. Some types of cognitive decline are characterized by deficits in reasoning, and may be labeled as non-amnesic if memory deficits are not also present.



Mental Rotation
Rotations

Measures spatial short-term memory, involved in tasks where nonverbal information needs to be stored and recalled.

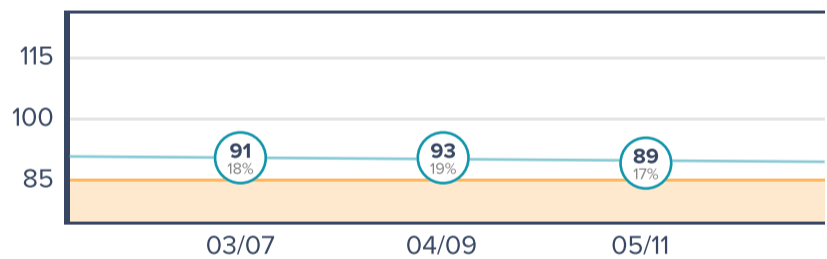
- 🚩 **Below typical range**
- 🚩 **Meaningful decline from last baseline**



Attention
Feature Match

A measure of attention – the ability to focus on relevant details or differences.

Within typical range



Legend: Below Typical Range (-1σ) — Trend Line

— Meaningful Decline: statistical thresholds used are based on a two-tailed analysis, $p < 0.2$.

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Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 4 / 10

Cognitive Assessment Details

Verbal Ability

Not indicative of potential verbal ability domain impairment.

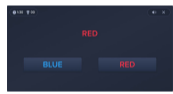
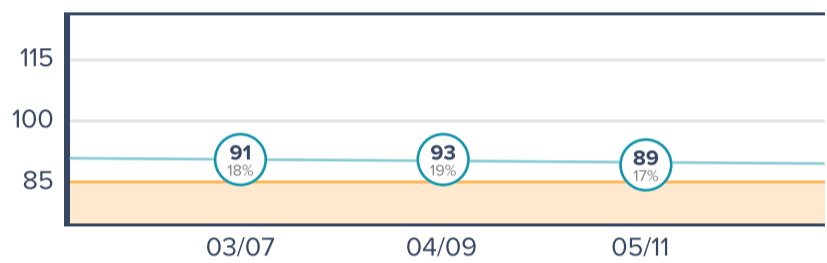
Verbal ability is the ability to understand, remember, and pay attention to language-based information. Some types of cognitive decline are characterized by deficits in language, and may be labeled as non-amnesic if memory deficits are not also present.



Verbal Short-Term Memory
Digit Span

Measures verbal short-term memory capacity, which is needed to hold information in mind and verbally rehearse it until it is needed.

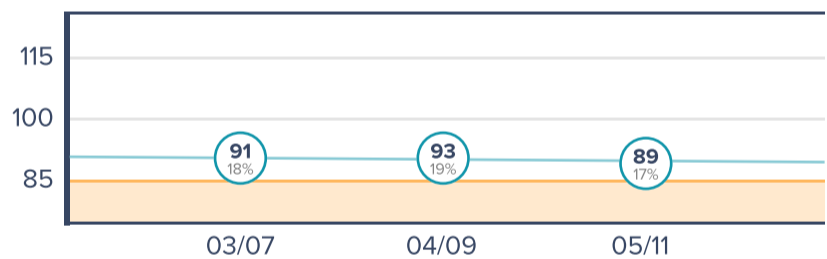
Within typical range



Response Inhibition
Double Trouble

A measure of response inhibition – the ability to concentrate on relevant information in order to make a correct response despite interference.

Within typical range



Legend: Below Typical Range (-1σ) — Trend Line

* Meaningful Decline: statistical thresholds used are based on a two-tailed analysis, $p < 0.2$.

The DSM-5 criteria for mild neurocognitive disorder require impairment in one or more domains. If two or more more tasks within a domain are below the typical range, this domain may be impaired. Below typical performance in three or more task across different domains may indicate multi-domain impairment. Task scores below the 15.9th percentile are more than 1 standard deviation (-1) below average, and are considered below the typical range.

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 5 / 10

Questionnaire Details



GAD-7 Questionnaire

Anxiety-Related Symptoms

The GAD-7 is used to objectively determine the severity of anxiety symptoms, and to monitor symptom changes and treatment effects over time. Individuals diagnosed with anxiety may experience cognitive impairments, requiring it to be ruled out as the primary cause of cognitive impairment prior to MCI diagnosis.

Not indicative of anxiety.

1



Test Score: 1 of 21

Threshold: 5 or more

Symptoms

This individual has reported being bothered by the following over the last 2 weeks:

- Not being able to stop or control worrying (Several days)

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 6 / 10

Questionnaire Details



PHQ-9 Questionnaire

Depression-Related Symptoms

The PHQ-9 is used to objectively determine the severity of depression symptoms, and to monitor symptom changes and treatment effects over time. Individuals diagnosed with depression may experience cognitive impairments, requiring it to be ruled out as the primary cause of cognitive impairment prior to MCI diagnosis.

Not indicative of depression.



Test Scores: 1 of 27
Threshold: 5 or more

Symptoms

This individual has reported being bothered by the following over the last 2 weeks:

- Little interest or pleasure in doing things (Several days)

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 7 / 10

Questionnaire Details

IADL Questionnaire

Functional Ability-Related Symptoms

The Instrumental Activities of Daily Living (IADL) Scale is used to assess independent living skills of an elderly individual, and measures functional ability as well as declines and improvements over time.

Not indicative of low function, dependence.



Symptoms

This individual reported being dependent on others for completion of the following activities:

- None

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 8 / 10

Questionnaire Details

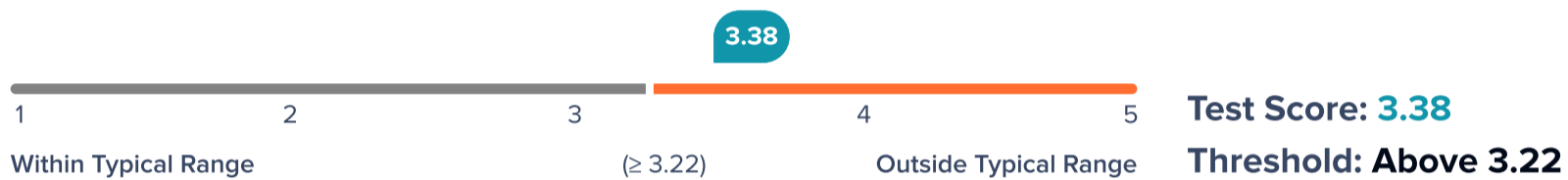


IQCODE-SR Questionnaire

Subjective Decline-Related Symptoms

The Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) developed by Jorm et al. focuses on subjective change and is useful in screening and evaluating dementia.

Indicative of subjective cognitive decline.



Symptoms

This individual has reported worsening of the following items, compared to 10 years ago:

- Recalling conversations a few days later (A bit worse)
- Remembering where to find things which have been put in a different place from usual (A bit worse)
- Handling other everyday arithmetic problems e.g. knowing how much food to buy, knowing how long between visits from family or friends (Much worse)

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 9 / 10

Dementia Overview

Overview

Dementia refers to a decline in memory, reasoning, or other cognitive abilities, leading to impairment in daily activities. Less severe impairments that do not disturb daily function are referred to as mild cognitive impairment (MCI), which sometimes represents an early stage of dementia. The American Psychiatric Association's DSM-5 defines mild neurocognitive disorder (synonymous with MCI) as meeting the following criteria:

1. Evidence of modest cognitive decline, based on expressed concern about decline and modest impairment in one or more cognitive domains; and
2. Symptoms do not interfere with independence in everyday activities; and
3. Symptoms are not only seen in context of delirium; and
4. Symptoms are not better explained by another mental disorder (e.g., severe depression or anxiety)

The National Institute on Aging and Alzheimer's Association (NIA-AA) also outlines stage-based criteria for MCI, which are similar to the DSM-5 criteria, but with a greater emphasis on early Alzheimer's disease. Both classification systems can make use of the information in this report for identifying MCI.

Loss of independence in instrumental activities of daily living may meet criteria for a more serious stage of decline, referred to as major neurocognitive disorder in the DSM, or dementia more generally. Additional clinical steps are needed to break down mild and major neurocognitive disorders into further etiological subtypes, such as specifying the cause of impairments (e.g., Alzheimer's, vascular dementia, Parkinson's).

Glossary

Amnestic: Involving memory. When the memory domain is considered potentially impaired, this report will label a potential neurocognitive disorder as amnestic or nonamnestic. Some etiologies for cognitive disorders, such as Alzheimer's disease, put a greater emphasis on memory impairments than impairments in non-memory domains.

Domain: A category containing areas of cognition that are closely related through correlated behavioral scores and similar brain regions. This report includes information about the domains of short-term memory, reasoning, and verbal ability.

DSM-5: The latest version of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, used to identify diagnostic criteria for mental conditions. The DSM-5 reconceptualizes dementia as part of broader neurocognitive disorders, separated into a mild subtype (also known as MCI) and a major subtype (often used synonymously with dementia), and provides additional guidance on identifying etiological subtypes.

Assessment Details

ID: 574983

Birthdate: 1945/12/31 Group: Females 75-84

Date: 2023/05/11

Page 10 / 10

Dementia Overview

Functional Impairment: Difficulty completing activities of daily living independently, as measured by the IADL questionnaire in this report. DSM-5 criteria for major neurocognitive disorder include cognitive deficits that interfere with independence, at a minimum, in complex instrumental activities of daily living.

Major Neurocognitive Disorder: The DSM-5 uses this term for cognitive decline beyond normal aging accompanied by a loss in ability to perform daily tasks independently. It is often used synonymously with dementia.

Mild Cognitive Impairment (MCI): In describing modest loss in cognitive ability, the DSM-5 uses the term mild neurocognitive disorder. In this report, the more widely-used equivalent term of mild cognitive impairment, or MCI, is also used. See the overview above for details.

Mild Neurocognitive Disorder: Mild neurocognitive disorder is used synonymously with MCI. The DSM-5 uses this term for modest cognitive decline. See the overview above for details.

Objective Cognitive Impairment: Cognitive function lower than an age-matched control population, as measured by objective cognitive tasks. In this report, potential objective cognitive impairment in a task is defined as scoring more than one standard deviation below the population mean, and overall objective impairment is defined as impairment in at least two tasks within a domain, or three tasks in different domains. The DSM-5 criteria for mild and major neurocognitive disorder include a modest impairment in cognitive performance, preferably documented by standardized testing.

Percentile: The percentage of individuals in the age-matched comparative group that the patient scored higher than. Patients at approximately the 16th percentile or lower (one standard deviation) on objective cognitive tasks are considered potentially impaired on that task.

Subjective Cognitive Decline: A decline in cognition reported by the patient. DSM-5 criteria for neurocognitive disorders include evidence of decline from a previous level of performance, which, in the absence of an objective baseline, is often based on concern of the individual, a knowledgeable informant, or the clinician.

Typical Range: The range of task scores in which a patient is not considered impaired on that task. In this report, the typical range is defined as within one standard deviation of the mean.