# The Memory & Attention Center

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## *Neuropsychological Evaluation*

Re: **David Rilsmith Xample** Eval. Date: 01-14-2021
Date of Birth: 01-17-1957 Age: 63 yrs & 12 mos Sex: Male
Referred by: Mathew Brown, MD

**Referral Data and Problem Statement:**

Mr. David Rilsmith is a 63-year-old, married, retired, white male who was referred by his neurologist regarding the relatively recent development of memory problems. According to his wife, Mrs. Jane Rilsmith , who supplied the majority of the historical information, Mr. Rilsmith has been having problems with dates and times. He seems to find things that used to be easy for him to do are now very involved and complex for him. For example, a few years ago he designed and built an addition on their home and more recently it took him a great deal to assemble a simple shed. He has been noted to repeat himself and to repeatedly ask the same questions, plus he seems to lose his train of thought. He has not seemed to have word-finding problems. By her account he has declined over the past two years.

Medically he has a history of atrial fibrillation, hypertension, hyperlipidemia, hyperglycemia, an elevated PSA and a history of colonic polyps. His medications include daily use of a multivitamin, CoQ10 100 mg, coumadin 7.5 mg, propranolol 80 mg, atorvastatin 80 mg, lisinopril 30 mg, and vitamin D3 1,000 IU. A note from the neurologist's 8/5/2020 appointment indicates that a July 2020 MRI showed possible atrophic changes in the medial temporal regions.

By his and his wife's report, Mr. Rilsmith has not had any mental health treatment at any point in his life, neither inpatient nor outpatient. He has never taken psychiatric medications. He has never had suicide attempts. He does not believe that he has had any trauma, neither psychological trauma nor head trauma. He has not had any problems with substance abuse.

The fourth of six children his mother died at age 69 from lung cancer and his father died in his 80s from cancer as well. Neither parent had dementia. His siblings are in good health. Mr. Rilsmith attended and graduated from Tufts University with a degree in Mechanical Engineering and Computer Science and he went on to have a long career (28 years) with AMF. He married his wife of 40 years and they have two adult sons, no grandchildren.

Mr. Rilsmith has been retired for the past three years. He plays golf three times a week and he walks the dog daily. He sleeps seven hours per night without nightmares and he has the occasional nap. He is six feet tall and weighs 188 lbs. and he does not follow any diet plan. "I eat whatever my wife makes." He drinks one cup of coffee daily and he averages a glass of wine per day, occasionally two. He spends his free time watching television, golfing and doing odd jobs about the house. He does not belong to any social organizations. His social life is at the golf course or whenever he runs into someone else walking their dog in the neighborhood. Her remains independent in all areas of his self-care (bathing, dressing, toileting, eating) and he has been mostly independent in his instrumental functioning. That is, he no longer can manage the family finances but he can still drive, manage cooking and houekeeping tasks and do his own shopping. He and his wife have wills and up to date documents for a health care proxy and a power of attorney.

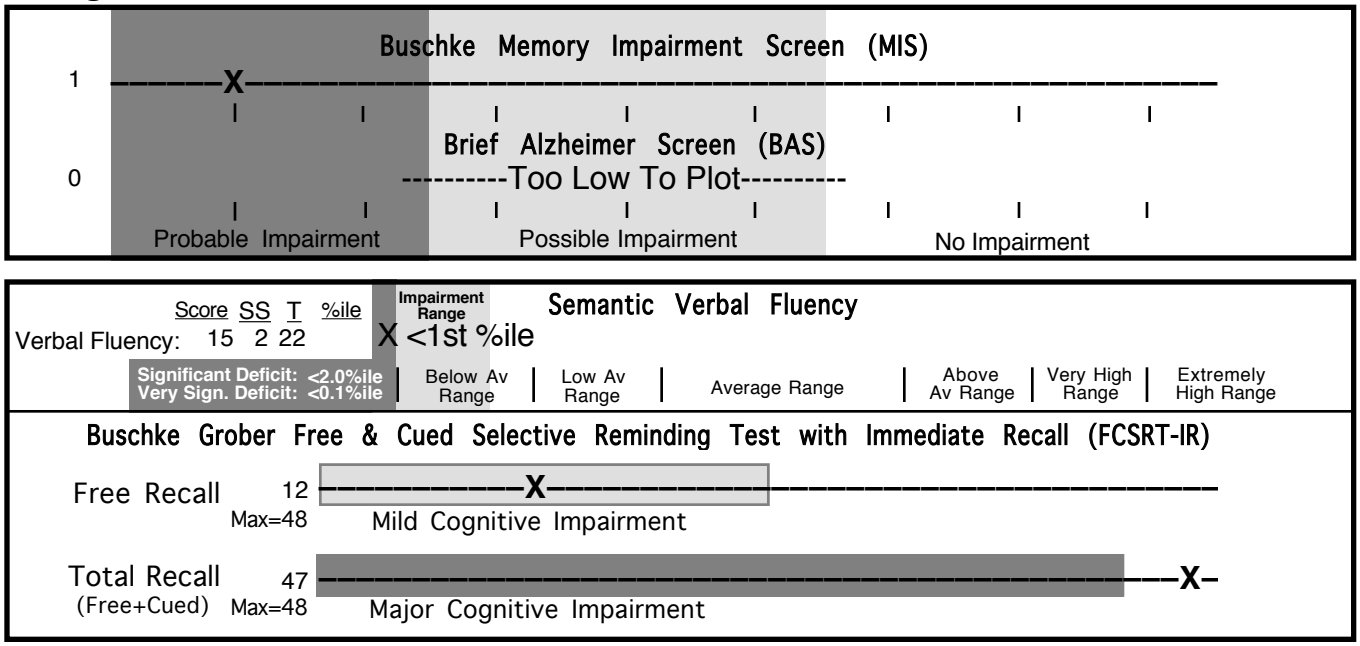
**Tests & Procedures Used:**

American National Adult Reading Test (AMNART); Basic Level of Assistance Needed (BLOAN) with Katz ADL criteria; Beck Anxiety Scale (BAI); Belle Browne Pain Scale; Brief Alzheimer Screen (BAS); CERAD modified Boston Naming Test; CERAD Word-List Memory (WLM); Clinical Dementia Rating (CDR) Scale; Clock Drawing; DSM5 Cross-Cutting Symptom Measure (CCSM); Elder Abuse Suspicion Index (EASI); Enhanced Cued Recall (ECR); Free & Cued Selective Reminding Test with Immed. Recall (FCSRT-IR); Generalized Anxiety Disorder Scale (GAD-7); Geriatric Depression Scale (GDS); Memory Impairment Screen (MIS); Metaphors, Reasoning & Long-term Recall; Mini-Mental State Examination (MMSE) with Crum norms; Patient Health Questionnaire (PHQ-9); PHQ Panic Syndrome Scale; PRIME MD-PHQ2; Rey Dot Counting Test (DCT); Rey Fifteen-Item Test (FIT); Semantic Verbal Fluency with race-controlled MOANS norms; Seven Item Instrumental ADL Test; and Word Fluency for 3 semantic categories.

**Observations & Mental Status:**

This thinning-white-haired, casually dressed, white male with glasses demonstrated a well-balanced gait. His fine motor functioning was adequate and there was no tremor noted. His speech was odd in that he seemed to not be able to complete his thoughts and his comments seemed tangential or unrelated to questions or topics. His wife attributed his odd use of language to some hearing deficits; but it seemed more than that. Although he has a bachelor's degree, his AMNART results suggested Low Average intellectual functioning. During the interview he was very reliant on his wife to answer the questions about his personal history. On the testing he showed some humor, suggesting that the examiner should "write me up for this one" as he had difficulty on the verbal fluency measure. He was aware that his thinking was causing him problems as on the MIS he commented, "I'm butchering this one." He occasionally seemed irritated as he claimed that he refused to try to do the serial sevens on the MMSE, eventually giving it a try when encouraged to do so. At times he could see he was failing and would then comment, "I'm not trying. I can do it, but I'm not going to do it." He generally used humor to cover his problems on the testing. Even so, he was generally cooperative, attentive and not distractible. Performance validity testing on the DCT and Rey 15-item Test suggested low effort, but these may have been affected by his cognitive processing issues. Even so, the results that follow should be assumed to be valid.

**Neurocognitive Test Results:**

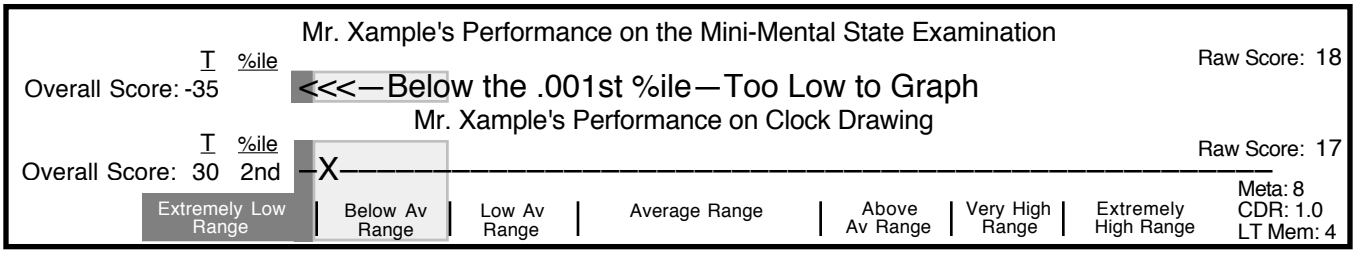



The Memory Impairment Screen measures immediate recall of four visually presented words following a brief distraction. His scoreindicates a 95% probability of a Major Neurocognitive Disorder (NCD), or dementia; however, the MIS is a brief measure. The Brief Alzheimer Screen (BAS) was given as a measure of verbal fluency, mental control, orientation, and short-term memory of verbally presented words. His results fell in the probable impairment range. Based on the most discriminating BAS test items, Mendiondo et al. found this score to be more than 90% accurate in identifying a major NCD. BAS results were similar to the MIS as they also fell in the probable impairment range. Mr. Rilsmith 's performance on semantic verbal fluency testing was consistent with BAS results as his fluency score fell within the severely impaired range; this falls more than 2.0 standard deviations below the average expected score for his age and indicates likely cognitive dysfunction.

The Buschke and Grober Free & Cued Selective Reminding Testing with Immediate Recall (FCSRT-IR) was performed to assess for major neurocognitive disorder like Alzheimer's disease or vascular dementia. It is also useful in determining mild NCD, a precursor stage before dementia, which is often referred to as Mild Cognitive Impairment or MCI. Mr. Rilsmith 's Total Recall score was above the cutoff indicative of dementia (see the dark bar in the chart above). A score in this range is nearly 100% accurate in ruling out a major neurocognitive disorder such as Alzheimer's dementia according to Grober et al. (1987). However, Free Recall fell well below the cutoff (see the light bar in the above chart) which indicates, with about 71% accuracy, a mild NCD or Mild Cognitive Impairment (MCI). Research by Sarazin et al. (2007) suggests this finding is incorrect only about 20% of the time. However, these findings differed from the MIS, BAS and MMSE (see next page) all of which demonstrated severe deficits.

DCT procedure after Lezak (1983) Neuropsy Assess with norms from Boone et al. (2002) Arch Clin Neuropsy, 17.
MIS procedure from Screening for dementia with the memory impairment screen (MIS) by Buschke et al. (1999), Neurology, 15; 52(2): 231-238.
BAS scoring based on Mendiondo et al. (2003), regression equation analysis of CERAD findings in J of Alz Dis, 5; 391-398.
Verbal Fluency norms based on the Mayo's Older Adult Normative Studies (MOANS).
FCSRT-IR procedure after Grober E et al. (1988), Neurology, 38:900-903–with materials provided by Dr. Grober
Grober E, Buschke H (1987). Genuine memory def in dementia. Dev Neuropsy-chol;3:13-16.
Sarazin M et al. (2007). Amnestic syndrome of the medial temporal type identifies prodromal AD–a longitudinal study. Neurology;69:1859-1867.

**Neurocognitive Results, continued:**




The MMSE was done to assess orientation, attention and other basic cognitive functions. MMSE findings fell within the very impaired range as compared to people of the same education and age. He was disoriented to most aspects of time and date (except for year and date); he was oriented to most aspects of place (except specific location). Short-term recall for three words stated aloud to the patient was fair with two of three words remembered after a short delay. Mental Control was very poor as he could not count by serial sevens at all, or reverse spell any part of a five letter word. Ability to follow a three-step command was fair with two of three steps completed. A deficit was evident in reading. Expressive writing and visuo-construction skill on a copy task were intact.

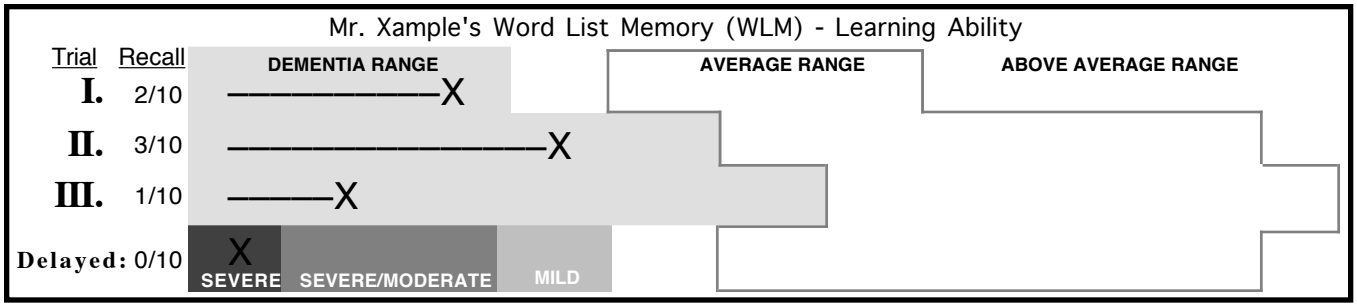
Clock Drawing was administered–his results indicated borderline ability suggesting problems in visual reasoning.

Mr. Rilsmith 's interpretation of difficult metaphors was fair as two out of the three proverbs tested were solved correctly. Ability to interpret simple proverbs was good for the one given. Fair reasoning capacity was evident in his ability to solve simple problems and determine similarities. Recall for remote events (from the last 30 years) was fair.

Clinical Dementia Rating (CDR) results indicated a general adaptive functioning level consistent with first-stage dementia. Mr. Rilsmith demonstrated forgetfulness interfering with daily activities; correct orientation to place, but not to time; slight impairment in problem solving; and some mild reduction in personal interests and hobbies.

**Memory Testing:**

The CERAD Word-List Memory (WLM) measure presents 10 words to the patient, over three separate learning trials. He was then asked to recall as many as possible after a 5-8 minute delay. Two words were recalled on the first trial, three words on the second, and one word on the third and last trial.

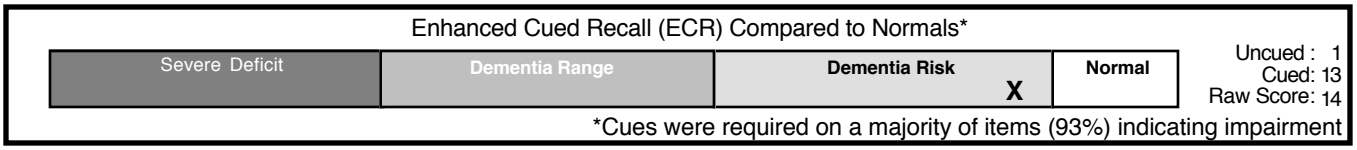



The WLM delayed recall test is the most sensitive test in the CERAD battery for dementia. After a 5-8 minute delay, no words were retained yielding a savings score of 0% from the third, or most recent, trial. Mr. Rilsmith 's WLM Delayed Recall was 1.5 standard deviations below the cut-off score for dementing conditions. This score detects moderate-to-severe Major Neurocognitive Disorders patients at about the 96% accuracy level, and Mild NCD patients with about 86% accuracy.

MMSE procedure after Folstein et al., 'Mini-Mental State': A prac method for grading the cog state of pts for the clin (1975), J of Psych Res, 12, 189-198. %iles based on 60 to 64 year olds in Crum et al., Population-based norms for the MMSE by age and educ level (1993). JAMA, 269, 2386-2391.
Clock Drawing Task-modified from Mendez M et al. (1992). Devel of scoring criteria for the Clock Drawing Task in AD. JAGS;40:1095-1099. Comp population aged from 51-84, with mean educ of 12 yrs.
WLM test from the CERAD neuropsych. battery. Norms after Welsh, K.A. et al, Detection and staging of dem in Alz's Dis. (1992). Arch of Neur, 49, 448-452. Mean age: 71, SD: 6 years.

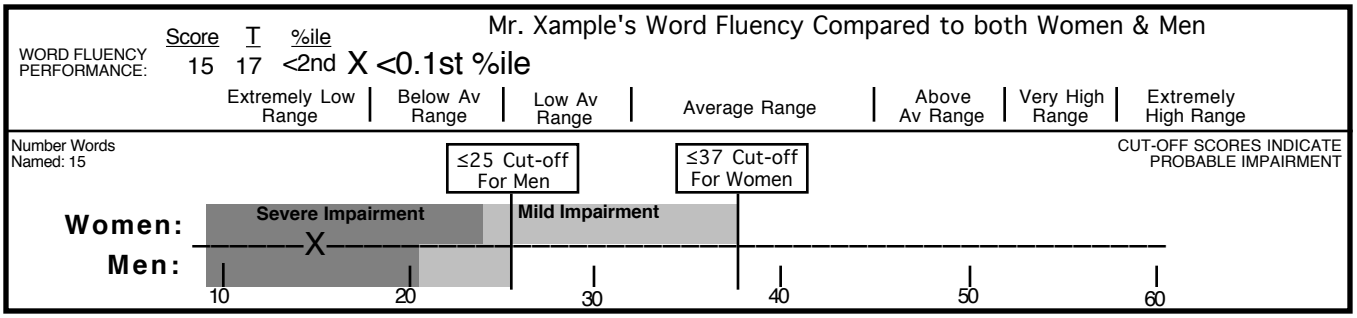
**Memory Testing, continued:**

Enhanced Cued Recall testing (ECR) was administered as a memory test for new learning of the names of 16 pictured objects, in free recall (uncued) and aided recall (cued) conditions. Mr. Rilsmith freely recalled only one of these test items. Cues were provided for the 15 test items he missed, and this helped his recall considerably on 13 items, or 87% of the time. Overall performance on the ECRilsmith was below normal expectations for age. The likelihood of ruling in a cognitive deficit is about 98% with this score.

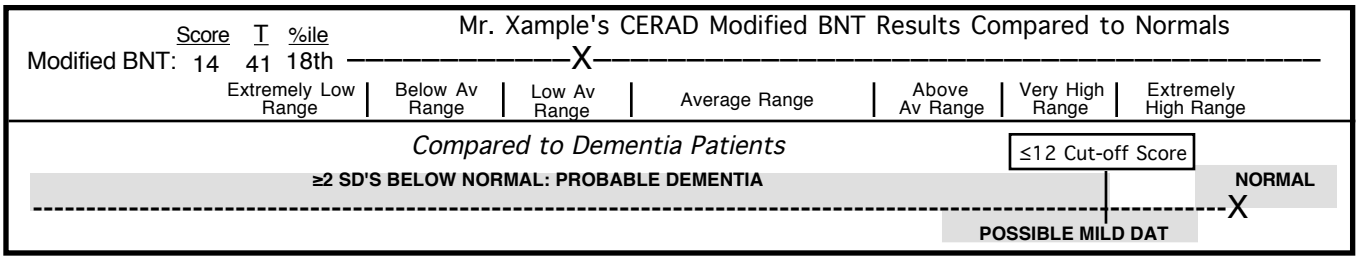



**Language Measures:**

Mr. Rilsmith named as many animals, fruits and vegetables as possible within one minute per category on the Word Fluency measure. Word fluency is often impaired in dementia and other neurological conditions. Mr. Rilsmith 's results of 15 fruits, vegetables and animals named fell within the range associated with cognitive impairment.




The modified Boston Naming Test (BNT) was administered to assess Mr. Rilsmith 's confrontation naming ability. Word naming on the BNT was in the average range; dementing individuals obtain scores this high only about 8% of the time.




While Mr. Rilsmith 's confrontation naming was normal, he did poorly on both Delayed Word List Memory and Word Fluency testing. These are more accurate tests for cognitive functioning, and their results indicated impairment. His mildly impaired ECRilsmith recall suggests a cognitive deficit in new learning, and he needed to be cued on almost all (93%) test items to reach this level of performance. Poor learning was apparent over the three FCSRT-IRilsmith training trials which was also seen on the three WLM learning trials.

Enhanced Cued Memory test method and norms by Solomon, P.R. et al., Arch. of Neur., 55, 349-355.
WF norms and proc. after Monsch, A.U. et al, Comp. of verbal fluency tasks in the detection of dem. of the Alz Type (1992). Arch. of Neur., 49, 1254.
Modified BNT procedure from the CERAD neuropsy. battery. Norms after Welsh K.A. et. al, Det and staging of dem in AD (1992). Arch. of Neur., 49, 448-452. Mean age: 71, SD: 6 years.
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**Emotional Functioning, Pain & Activities of Daily Living:**

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|---|---|---|---|---|---|---|---|---|---|---|
| Beck Depression Inventory–Not Administered | | | | | | | | | | |
| Beck Depression Inventory-II | S | T | %ile | *Compared to Mental Health Outpatients* | | | | | Significantly MORE Depressed Than Patients in MH Treatment | |
| Geriatric Depression Scale* | 1 | 39 | 14th | Extremely Low Range | Below Av Range | Low Av Range | Average Range | Above Av Range | Very High Range | Extremely High Range (Depressed Range) X Max: 30 |
| Beck Anxiety Inventory | 0 | | | *Compared to Anxiety Patients in Treatment* | | | | | | |
| | | | | Low | Moderate | Clinically Anxious: High | Very High | Severe -> | No Symptoms Reported | Max: 63 |

Twelve domains of psychiatric functioning were assessed with the DSM-5 Cross-Cutting Symptom Measure (CCSM). All domains involving depression, anger, mania, anxiety, somatic, self-harm, psychosis, sleep, memory, repetitive thinking/behaviors, dissociation, personality function and substance use showed no problems. The PHQ-9 indicated denial of any depression based on indicators over the past two weeks. Results were consistent with the CCSM depression subtests.

The Geriatric Depression Scale (GDS) was done and yielded results similar to the PHQ-9.* His GDS results were below expectations for a person of his age as he endorsed very few depression indicators. His low endorsement of symptoms of depression indicates poor insight about everyday issues that can cause at least minimal depression. He showed a good deal of optimism in his report of being generally satisfied with his life, being hopeful about the future, usually being in good spirits, feeling happy most of the time, believing it is wonderful to be alive and enjoyment in getting up each morning. Feeling his mind is no longer as clear as before suggested some self-awareness of his cognitive problems. Results on all depression measures were the same, suggesting findings are reliable. No past Major Depressive Episodes were reported within the past two years. An evaluation of suicide risk was completed. Mr. Rilsmith indicated no suicidal ideas within the past two weeks.

Testing with the GAD-7 found no signs of generalized anxiety. CCSM findings supported this as there was little to no anxiety apparent. The Beck Anxiety Inventory (BAI) was given orally as a test of anxiety. Mr. Rilsmith admitted to far fewer anxiety symptoms on the BAI than most people do of his age and sex. This level of denial suggests impaired insight/awareness regarding anxiety. BAI results were below the level typical for patients receiving treatment for anxiety. No significant anxiety was apparent on the CCSM and GAD-7; which was consistent with the low level of anxiety found on the BAI. Given lack of significant feelings of nervousness or uncontrollable worry, criteria for Generalized Anxiety Disorder (GAD) were not met. The PHQ Panic Syndrome Scale indicated no panic-like symptoms.

Occasional mild pain was described. No specific pain locations were reported. No neurophysiological symptoms were reported.

Information about ability to perform basic Activities of Daily Living (ADLs) was obtained. Mr. Rilsmith functions independently in seven of seven basic ADL areas assessed with the BLOAN; i.e., he needs little or no assistance with bathing, dressing, toileting, transferring, continence, eating and ambulating safely. With respect to basic activities of daily living (ADLs), Mr. Rilsmith is fully independent. The 7-item Instrumental Activities of Daily Living (IADL) Test indicated Mr. Rilsmith is independent for housekeeping, laundry, meal preparation, shopping, telephone use and transportation; but he sometimes needs assistance with finances.

*GDS norms after Yesavage et al. (1983). Devel. and validation of a geriatric depr. scrning scale: A prelim. report. J. of Psych. Res., 17, 1, 37-49.

**Diagnostic Impressions:**
G31.84 Mild Neurocognitive Disorder, due to Frontotemporal Degeneration

**Summary:**

Mr. David Rilsmith is a 63-year-old, married, retired, white male who was referred by his neurologist regarding the relatively recent development of some memory problems. Upon testing, Mr. Rilsmith obtained scores suggesting significant deficits in his short-term memory. He had extraordinary difficulty with the MIS and BAS and his scores on the FCSRT-IRilsmith fell below the cutoff for a Mild Neurocognitive Disorder (NCD) but not a Major NCD. He showed difficulties with free-recall, performing better on cued-recall tasks. On the WLM, his scores were low on each of the three trials and his delayed recall score was a zero, falling in the severe dementia range. His scores on the MMSE also reflected severe deficits as Mr. Rilsmith had problems with essential orientation questions and with following a three-step direction. His ECRilsmith results fell in the dementia risk range with the same weakness on un-cued recall as seen on the FCSRT-IRilsmith A measure of verbal fluency also reflected severe impairment as he could only come up with 15 responses. That he performed so poorly on the AMNART was also unusual as this test tends to reflect a person's vocabulary skills, which are normally resilient to disease processes. Overall, his abilities appear to fall in the Mild NCD range as neither the FCSRT-IRilsmith or the ECRilsmith suggests a Major NCD at this point.

Mr. Rilsmith's responses to the multiple measures of mental health symptoms suggested a lack of problems with depression, anxiety, or other mental health disorders. He endorsed items suggesting that he felt satisfied with his life, felt that he was usually in good spirits, and felt that he was optimistic about the future. Similarly, he endorsed almost no items suggestive of an anxiety disorder. In fact, he under-reported normal levels of anxious and depressive thoughts suggesting that he is probably using denial to cope with his diminished cognitive skills. He either is not prepared to cope with his diminished skills, or he is unable to have enough awareness of his deficits for these problems to register with him.

Finally, per his wife's report, Mr. Rilsmith remains relatively independent in his instrumental activities of daily living. His wife is aware that he cannot manage the finances like he once did, but he continues to drive and to manage household tasks independently. Given the neurologist notation of temporal lobe involvement, a frontal-temporal dementia must be considered as underlying his cognitive decline.

**Treatment Planning Recommendations:**

• Information about these recommendations and more is available at our website: AgeSure.com.

• Sustained aerobic exercise elevating heart rate (stationary bike, brisk walking, water aerobics, etc.) for at least 150 minutes a week (20–60 minutes daily, five or more days/week), can reduce dementia risk.*

• Consider a Mediterranean Diet with plenty of poly-unsaturated fats (like olive oil), fruits, bright colorful vegetables, legumes, whole grains and lean proteins as a preventive strategy for dementia.

• Contact Elder Services' Family Caregiver Support Prog, 800-244-4630 for resource & financial help.

• Mr. Rilsmith does not show dementia; but there is evidence that Mild NCD may be a bigger risk factor for susceptibility to scams or negative influence. He should be monitored as to spending patterns, gifting, etc. that either vary from his prior behavior or exceed his budget for signs of elder abuse.

• Given evidence of Mild Neurocognitive Disorder, repeat neuropsychological evaluation in about a year is advised. NCD is typically progressive if related to Alzheimer's disease, and re-evaluation can show stability vs. decline when results are compared to these baseline data.

*Consistent with the Amer. Acad. of Neurology MCI Guidelines, pub. in Neurology, 2018

**Recommendations, continued:**

# PLEASE DELETE THIS PAGE BEFORE FILING REPORT

Billed under Dr. Eggleston for DOS->01/14/21 for 60 min. of pre-testing activity:
• 1 UNIT OF 96132 for 1st hour (60 min.) of neuropsych. services in advance of seeing the patient and after to clarify problem statement, review med. records, check for prior testing, select tests & procedures, plan the assessment, set up chart in advance of the appointment, start history writeup.
Billed under Dr. Eggleston for DOS->01/14/21 for testing/scoring by QHCP:
• 1 UNIT OF 96136 for 1st half hour of test prep. & setup, procedure explanation, test administration. And,
• 5 UNITs OF 96137 for an add. 150 min. (5 units billable) of test administration, feedback, scoring, computer encoding. And, finally,
• 2 UNITs OF 96133 for 2:00 hrs (max. billable is 2 units) spent post-testing on 01/14/21 integrating findings, interpreting, clinical decision making (diagnosing), report writing, making rec's/treatment planning, writing letters, advising on referral options, interactive feedback.
• POS: 11 Off-119 Cedar–> Lewis Bay Assts, 119 Cedar St, Hyannis, MA 02601
Current medications (#130) were reviewed and documented in the patient report. Pain screening (#131) was negative, no follow-up plan was required. Depression screening tools (#134) included the; Patient Health Questionnaire (PHQ-9), PRIME MD-PHQ2, Suicidality Interview, PRIME MD-PHQ2 and DSM5 Cross-Cutting Symptom Measure (CCSM).Depression screening was negative, so no follow-up plan was needed. Elder abuse screening (#181) was negative, so no follow-up was necessary.