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NEUROPSYCHOLOGICAL EVALUATION

Name: Matthew "Matt" Matthews **DOB: 01/01/56**
Handedness: Right **DOA: 08/23 & 25/05**

THIS IS A REDACTED SAMPLE REPORT. ALL NAMES HAVE BEEN CHANGED

REASON FOR REFERRAL:
Matthew "Matt" Matthews was referred by Cxxxx Hxxx, CorVel Case Manager, and Hxxxxx Oxxx, PhD, ABPP, neuropsychological IME reviewer, for neuropsychological assessment to assess his self-reported symptoms, the evidence for cognitive deficits, areas of strength and weakness, etiology of any identified deficits, indicators of malingering and current cognitive functional capacity.

PSYCHOSOCIAL HISTORY:
Mr. Matthews is a 49 year-old, right handed, married male who has reported neurocognitive complaints since becoming ill in 2001. While the etiology of this illness is as yet unconfirmed, Mr. Matthews opines that he incurred multiple tick-borne illnesses during the summer of 2001, and may possibly have Lupus. He reports no previous psychiatric or neurological history. He denies illicit drug use, smoking and misuse of alcohol. He reports that he enjoyed good health and was fully functional premorbidly. Mr. Matthews married his wife in 1982. They have no children. His wife, Mary Matthews, is a senior programmer and analyst with Mass Mutual, Mr. Matthews's last employer. She presently works out of state three days per week commuting 600 miles, and stays at their NH home four days per week. He notes that she has been very supportive through his illness.

Mr. Matthews grew up in Connecticut, one of two siblings in an intact nuclear family. He notes no gestational or developmental issues. He reports being an A/B student and completing a Bachelor's degree at the University of Connecticut, majoring in political science, government and history (no academic records were provided). He further notes taking community college courses in the mechanical and aeronautical fields. He has long had an interest in flying, reportedly receiving a glider license at age 16 and a private pilot's license at age 18. He reports working from 1977-85 at_____, with jobs including restoring and flying WWII aircraft. He is saddened that he can no longer fly due to his condition. While a medical record notes Mr. Matthews was a Marine, was retired from the armed forces, served in the Desert Storm campaign, and had a variety of Army vaccines (Axx Pxxx, MD, 02/05/02), Mr. Matthews made no mention of being in the military to this examiner, and did not include such information in his occupational history. Instead, he clearly stated that he was employed by

_____ from 1985-1996, the period during which the Desert Storm campaign occurred. Mr. Matthews states that he started as "low man" at _____, working his way up to manager of operations in Connecticut. He states that he left _____ in 1996 to care for his ailing father (no verified occupational history was provided).

Mr. Matthews states that his father was a welder and died in 2000 at age 76 of Alzheimer's Disease. His mother died in 1996 at age 70 of sepsis. Mr. Matthews became teary when discussing his mother's death. He reports that she was caring for his father at home. She had previously sustained a work-related injury necessitating five spinal surgeries and "her immune system was shot." She developed a flu-like illness when visiting with her grandchildren, and later cut her leg. Reportedly this cut developed into an ulcerated infection due to his mother's delay in seeking medical assistance, as she was instead focused on caring for her husband. Mr. Matthews sadly recounts that he did not go to assist her when she was not feeling well. He becomes overwhelmed with emotion while noting he had called and assumed a busy signal meant she was well. He reports his brother called the following morning to inform him that his mother was in the ICU, and that he and his brother made the decision to terminate her life support 01/02/96.

Following the death of Mr. Matthews's mother, he reports working on commission as a project manager for Sxxxxx, a role that allowed him to stay at home and care for his father. Mr. Matthews notes that his brother was not helpful during this time, and that they are not in communication since his father's death. He has no other relatives and reports few close friends since relocating to New Hampshire from Connecticut. The Matthewss acquired land in NH in 1994 and constructed a home there in 1998. Since his illness, they have sold their other home in Connecticut. Mr. Matthews discussed his strong preference for living in the mountains of NH, but noted that it was impossible for either he or his wife to earn a living in the region, thus her 600-mile weekly commute. He feels he could never return to the hectic pace of life and work in an urban area.

Mr. Matthews commenced work at Mxxx Mxxxxx following the death of his father in 2000. Through a neighbor, his wife was offered a position and was the first to work for the company. According to Mr. Matthews, this neighbor, reportedly a chief information officer, wanted to employ people that she could trust, and extended an offer to Mr. Matthews as well. He reports supervising two, 40-person teams, charged with corporate wide introduction of new technology. He reports that his performance metrics, a method of evaluation, were the best in the company, with a reduction in dissatisfaction from 17% to 1-3%. He states he had an excellent path in the company, and was being groomed for an executive management position at the time of his illness.

Mr. Matthews notes that he became ill in September of 2001, following a July/August vacation in NH wherein he worked on his NH property 6-8 hours per day. He never saw a tick or noticed a tick bite. In September of 2001, he felt tired and "not himself." He was working 10-12 hours per day in Hartford and Springfield, trying to facilitate a change in corporate culture. He states that while Mxxx Mxxxxx had posted some of their highest earnings, they hired a "hatchet man" from NYC and had lay-offs. His wife has made it through these lay-offs and still works for Mxxx Mxxxxx.

With the onset of his symptoms, Mr. Matthews reports he was never able to return to work. He states his cognitive status declined right away. He reports constant fevers, low grade, from 99.2-101 degrees. He reports having a malarial type illness and being on medication for that.

He notes he could not remember the names of team members with whom he had worked for a year and could not converse with people at work. This memory problem started a week after diagnosis. He discusses that he had all three tick-borne illnesses concurrently – Lyme, erlychiosis and babesiosis. While one was identified (erlychiosis) the other two were not found as they had been masked by antibiotics. He notes these tick-borne illnesses have caused problems in his joints and muscles, and that he has major pain flair-ups as the antibiotics kills off bacteria when it blooms.

In reference to his pain, Mr. Matthews states he is trying not to use Percocet as he knows it is addictive. He is also using Aleve, extra strength Tylenol and Neurontin for pain management. At times his pain is excruciating. He reports this pain at times prevents him from sleeping at night, and Percocet is usually taken before bedtime. The pain reportedly fluctuates and occurs in different parts of the body, especially the extremities.

Mr. Matthews reports that he has never gotten well. He has seen over a dozen doctors of all different types and is taking three different antibiotics. He notes that doctors have tried to rule out various diagnoses. He has had to give lots of blood. At one point he reports being told he had Lupus, and states he still may have this condition. He has a lesion on his spleen and states he cannot therefore have steroids. He had gall bladder disease, but after six months of manipulations by an osteopath, this reports this has resolved. He notes constant pain from his spleen and that he is experiencing internal "vibrations on both sides" of his abdomen that he attributes to problems in his gall bladder and spleen.

Mr. Matthews further states that his cognitive symptoms have had a domino effect. His vision failed, then his memory. He cannot remember where he put things in his house such as his glasses, keys and wallet. He tries to compensate by disciplining himself to put things in the same place. He reports he was making careless errors with family finances, which his wife now manages. He has no problems with remote memory. He complains of having to back-track when reading novels, but recently finished reading The De Vinci Code, and was able to comment on this. He also complains of intermittently hearing things, noises that appear to this examiner inconsistent with common tinnitus. He also complains of now having to use spell-check when e-mailing friends in graduate school in England everyday.

Mr. Matthews reports being more depressed and anxious. He is less physically active and cannot do many preferred activities such as hiking and camping. He reports frustration at being ill for four years with no clear progress or prognosis. He states his current physician, Dr. Cxxx states this could resolve in a year or be there the rest of his life. He becomes teary, stating that Dr. Cxxx was the first physician who gave him hope and "he promised that he won't abandon me, he will take care of me." Mr. Matthews states that Dr. Cxxx explained his treatment will "wreak havoc." He notes that the good bacteria as well as the bad bacteria are killed off, necessitating hourly trips to the bathroom. He must then discontinue antibiotics, repopulate the good bacteria, and after a few weeks start antibiotics again. Mr. Matthews believes his current antibiotic dose is not at a high enough level to "kill things", but that Dr. Cxxx does not want to raise the dose too quickly to avoid problems with diarrhea. Since seeing Dr. Cxxx, he reports his symptoms have become worse due to the effects of medication. Reportedly Dr. Cxxx told him to expect this, that every time the dose is increased, the symptoms will also increase. Throughout this, he states Dr. Cxxx still has not discounted the possibility of Lupus, and may need to refer him to an associate who specializes in this condition.

Mr. Matthews reports that he is affected by some set of symptoms every day. He experiences fatigue and pain daily. He cannot walk long distances. He reports sleeping 4-6 hours per day,

reading, spending time on the internet exchanging e-mail, playing games, engaging in military simulations and doing simple meal preparation and household tasks. He reports no longer enjoying flight simulator games because of worsening eye-hand coordination, noting the game was no longer entertaining and "became torture". When his wife is home, he enjoys going out to eat and to the movies. When his wife is out of state at work, he is "trapped" at the house Tuesday through Thursday. He does not like to impose on neighbors and does not report any close friends in the NH community, noting that many in his area are retirees and part-time residents for whom these are second and third homes. He reports not returning to see friends in Connecticut since December of 2003 due to discomfort traveling.

Mr. Matthews openly states his disdain for his disability insurer, Lxxxxx Mxxxxx, stating that he hates them and that they have placed one obstacle after another in his path. He observes that they were willing to pay for an attorney to secure his SSDI to reduce their burden, and were surprised that he was able to receive benefits "on the first pass" following a psychological examination by Dr. Mxxxxx in Littleton, NH. According to Mr. Matthews, his LTD benefits had been discontinued for much of 2002, with retroactive payment occurring after many appeals. He is bitter that during this process he lost his BMW and had to give up his home in Connecticut.

Mr. Matthews also expresses frustration that his wife cannot work out of the home full-time given the nature of her job. He states there is no need for her to actually go there physically, and pressures to do this stem from the jealousy of others within the company. She must retain this position for income and benefits. Mr. Matthews states that both he and his wife worry about potential lay-offs. They did change health insurance to Cigna in 2004 to have access to doctors in NH. Mr. Matthews reports having to spend $4,000 of his own money to access Dartmouth affiliated physicians prior to his insurance plan "kicking in".

Mr. Matthews closed our interview time stating that at times he thinks the worst, that this could be something incurable. He notes he has a high ANA level, double stranded DNA, his joints are hurting, that steroids were injected in his back, but didn't work. He does not want to use steroids, but now is having to use Nasonex. He reports that since being ill, his sinuses drain in the shower so badly that he coughs and spits up. He feels this problem can't really be addressed as he does not want to introduce more drugs into his system. Mr. Matthews also reports that his pulse is around 101 and blood pressure 168. He is concerned about this and does not want to drop dead of a heart attack. He is now taking Aspirin daily. He reconfirms that his symptoms have worsened and that he is concerned for what the future holds.

MEDICAL HISTORY (as available):
Mr. Matthews's extensive medical history is documented by numerous providers. Based on his records, the specific etiology of his neurocognitive symptoms remains unclear. In fact, there are considerable differences of opinion and various diagnoses documented in the record. A brief synopsis, with focus on symptoms relevant to neuropsychological evaluation follows.

Records of Sxxxxx Gxxxxx, DO, Primary Care Physician include entries from November, 1999, February and March of 2000, and extensive records from October, 2001 through July, 2003. Many of these notes are illegible. The 1999 note is completely illegible. The early 2000 records discuss a period of illness characterized by cough, sweats, chills, dizziness, fatigue, appetite loss and fever lasting over six weeks. The October, 2001 records reflect what Mr. Matthews reports as the start of his current illness. Mr. Matthews's complaints noted in the record include loss of appetite, 'shakes', right facial numbness, fever, and blurred vision. His temperature at the time of exam appears WNL and he appears to have received a prescription of Zithromax.

Head CT of 11/08/01 was negative. A note of 11/21/01 indicates Ehrlichia with a subsequent prescription of Doxycycline. December 2001 lab notes indicate probable Ehrlichiosis and positive ANA antibody. Further concerns regarding fatigue and pain are readable in notes from 2002, during which time Mr. Matthews received services from numerous specialists. Temperature and blood pressure appear WNL. Note of 04/01/03 states that Mr. Matthews appears concerned and depressed.

Infectious Disease physician Nxxx Cxxxx, MD notes no focal deficits on neurologic exam 12/31/01. Also noted are negative CT, negative Babesia and a two months of Doxycycline treatment.

Record of Axx Pxxxx, MD, rheumatologist (02/05/02) notes that Mr. Matthews stated he had been ill since June of 2001. Symptoms included fatigue and positive ANA. Dr. Pxxxx's note states that Mr. Matthews also complained of hemorrhoids, claiming they developed as a result of his being a fighter pilot, noting they were a common complaint of fighter pilots. This report also notes Mr. Matthews was a Marine active in the Desert Storm campaign and had received all of the Army vaccines, including the (controversial) Anthrax vaccine. This is not discussed in any other legible note, and as previously mentioned, Mr. Matthews did not include any mention of military service when providing his educational and occupation history. He did report having a private pilot's license, flying vintage aircraft in air shows and having a keen interest in military history.

Mxxxxx Rxxxx, MD completed various tests in early 2002, confirming in a letter of 03/06/02 that Mr. Matthews's hematology was WNL. Abdominal CT scans of 01/08/02 and 02/26/02 note an unchanged 1 cm focus on the spleen with the remainder of the abdomen WNL.

Bxxxx Kxxx, MD and Reinhard Kxxx, MD's extensive records from 04/08/02 through 06/24/03 note repeatedly that Mr. Matthews was oriented x3, presented no tingling, numbness or burning and did not appear anxious or depressed. Complaints noted upon initial exam included diffuse arthralgia without synovitis, diffuse myalgia without muscle weakness, Ehrlichiosis in 10/01 treated appropriately, positive ANA and fatigue. These symptoms were noted to suggest reactive autoimmune response, and various medications and tests were ordered. Diagnoses posed in the 04/22/02 report included early CTD or possible SLE. Treatment with Paquenil was commenced following baseline eye exam with an order for eye exam every 6 months, however, these eye exams were not included in the record. Joint pain and fatigue are noted throughout these records, with memory problems noted commencing 06/13/02. Evaluation of 07/25/02 notes normal hand grip strength bilaterally, no proximal or distal weakness or tenderness, and again oriented x3, no numbness, tingling or burning and no anxiety or depression. Note of 10/15/02 notes very poor STM, but oriented x3. Note of 10/17/02 includes diagnoses of unspecified inflammatory polyarthropathy, rheumatism unspecified and fibrositis, pain in joint – multi-site, acute bronchitis, unspecified immune deficiency, cough, shortness of breath, possible SLE and fibromyalgia. This notes also mentions Mr. Matthews'a consumption of whole series of vitamins under the care of a naturopath, Dr. Rxxxxx. None of these naturopath records were available for review. At this time it was further noted that Mr. Matthews had no swollen or tender joints, grossly normal gait and sensorium, and no tremor. Further complaints of joint pain and fatigue and a variety of medications continue. New symptoms reported by Mr. Matthews in December, 2002 include hissing in ears, shakes 6x/day, short term memory getting worse. Left hand grip strength noted as good, right as normal. Along with possible SLE and fibromyalgia, diagnosis of possible long-term sequelae of infectious process is noted. Notes of 06/24/03 indicate hand pain, but no proximal or distal weakness in the upper extremity.

Gastroenterology notes of Bxxxx Sxxxx, MD and Dawn Gxxxxx, ARNP note left lower abdominal pain characterized as a 'heavy present' and 'uncomfortable' in April 26, 2002. The pain was reported as unrelated to eating, and Mr. Matthews stated he ate only one meal per day at the time. Other symptoms noted include losing 20 lbs. In 1 ½ weeks, blurred vision, 'hot flashes' related to eating or exercise, fevers of 101 degrees, short term memory loss, with a question raised of irritable bowel. Continued treatment through Dr. Rxxxxx, Naturopath, is again mentioned. Abdominal sonogram was WNL. The pattern of symptoms was deemed inconsistent with IBS and no other diagnosis was offered.

04/30/02 Opthalmology note is illegible.

November 8, 2002 IME of James Txxxx, MD notes history of fatigue, pain and fever commencing September, 2001, with variety of antibiotic treatments. Worsening of diffuse pain and fatigue is noted. Left upper versus left lower abdominal pain is noted, which is reported to worsen with eating and is spread to the right upper abdomen. Memory and sleep problems are noted, and Dr. Txxxx noted Mr. Matthews's statement that he was the 14th doctor addressing these symptoms. Neurological symptoms of tremor and parasthesia were reportedly denied. Fibromyalgia was diagnosed and further neuro work-up recommended.

04/07/03 note from Jonathan Txxxx, MD, Infectious Disease, noted elevated blood pressure, memory complaints, pain and fatigue, with a diagnosis of autoimmune disease rather than infectious process.

Note of James Mxxxxx, MD 04/18/03 discussed the medical complexity of Mr. Matthews's issues and the extensive and repetitive medical work-ups he experienced including innumerable blood tests, endoscopy, colonoscopy, CT scan of the abdomen x2, HIDA scan and Mr. Matthews's own habit of taking his temperature six times per day. Dr. Mxxxxx reviewed Mr. Matthews's lengthy symptom list including fatigue, fever and left lower abdomen pain. Dr. Mxxxxx noted anxiety, depression and self-esteem as concerns. He reported proximal and distal strength intact in all extremties. He expressed concern at the multitude of diagnoses and therapies received, including wondering if complications could be from some of his medications. He raised the issue of future psychiatric referral, recommending he try to talk with someone about his sTxxxx for the time being. He also suggested reduction in medication and more definitive testing to rule out SLE.

In June of 2003, Mr. Matthews was evaluated by E. G. Mxxxxx, PhD for social security disability evaluation. Mr. Matthews reported having seen over 20 physicians at that point. He reported being bitten by a tick and developing joint pain and swelling that are ever present but wax and wane. He reported diminished visual acuity, fatigue and manual dexterity. Mr. Matthews also reported being worked up for Lupus (SLE) and fibromyalgia. Mr. Matthews further noted feeling sad, discouraged, hopeless, irritable, de-energized and having memory lapses. His wife agreed with these symptoms. It was noted that he had been prescribed Paxil for a month (no effect), with no indication that a psychiatrist had been involved for formal assessment. The history reported in this report notes a similar occupational background and specifically denies military background. It also notes Mr. Matthews writing a book about WWII and the invasion of Iwo Jima, which he also mentioned to this examiner (that he had written a book on the history of the Navy). Test results reported by Dr. Mxxxxx included a significant Verbal/Performance split with theorized poor right hemisphere functions; slow Trailmaking A & B and 'barely adequate' short term memory. Dr. Mxxxxx advised referral for further neuropsychological testing, noting his symptoms were without a clear diagnostic pattern with indication of depression. He also determined that Mr. Matthews was incapable of managing any funds or benefits based on self-

report of increasingly frequent error, although Mr. Matthews's performance on arithmetic testing was at the 63rd percentile, well within normal limits. No formal psychological batteries or validity testing were undertaken. Counseling and psychiatric work-up for possible anti-depressant therapy were recommended

July 1, 2003 review by rheumatologist Ralph Sxxxxx, MD reviewed symptoms and further referred to a neurologist. On August 20, 2003, Mr. Matthews was examined by Lawrence Bxxxx, MD, neurologist. Mr. Matthews reportedly told Dr. Bxxxx that he had a spinal tap (no records provided) and had been tested for cancer (no records provided). He mentioned tremors up to 12 times per day, although none were noted in the neuropsychological exam the previous month. Mr. Matthews reportedly also stated that his neuropsychological evaluation indicated he had memory problems but was not depressed, which is inconsistent with Dr. Mxxxxx's report that notes both symptoms. Neuro exam notes facial sensation and strength are normal, with no sensory symptoms and oriented x3. Stroop testing and assessment of knowledge base, ideational apraxia, visual agnosia, cortical neglect and language functions were WNL. MRI and EEG were recommended with no abnormalities noted later in the file.

In January of 2004, Mr. Matthews commenced receiving treatment from Rxx Cxxx, MD, Rehabilitation Medicine. An extensive evaluation note from 01/16/04 notes Mr. Matthews as being off all medications due to tremor, up to 12/day. He was noted to appear fatigued and was weaker in the upper rather than lower extremities. Pain was evident in multiple points. Cranial nerve examination was grossly normal. Swelling was difficult to discern, whereas sensory examination demonstrated reductions in the right forearm and left upper extremity digits. Dr. Cxxx expressed some concern regarding possible SLE, but suspected that Mr. Matthews's symptoms were caused by untreated or partially treated tick-borne pathogen. Dr. Cxxx's note of 01/30/04 noted Mr. Matthews's 'brain fog' and reduced cognition which he attributed to Lyme Disease. He raised the possibility that Mr. Matthews may have sero negative Lyme Disease, possibly Babesiosis and totally or partially treated Ehrlichia. SLE had still not been ruled out. It was noted that he was just barely coping. Dr. Cxxx's notes from February, 2004 documented a worsening of Mr. Matthews's condition (fever, memory, fatigue, etc.), indicated his opinion that Mr. Matthews has chronic active Lyme Disease, as well as a mood disorder and sleep problem, although no psychiatric consult is noted.

Dr. Cxxx's March 15, 2004 note reported a sudden onset of low back and (right) leg pain. Pain management medications are prescribed, as well as discussion of adding Zoloft. The note of March 18, 2004 indicated improvement, and that his Lyme-related pain and sweats had totally resolved on the current treatment regimen. Dr. Cxxx's note of April 2, 2004 indicate a return of symptoms. This note discussed a variety of possible tick-borne pathogens and the intention of continuing antibiotic treatment Note of April 16, 2004 further discussed the likelihood of Lyme Disease and the continuation of right leg and low back pain. May 21, 2004 note indicated continued leg and back pain, with some suggestion of general improvement. Concerns with diarrhea and unchanged cognition are also noted. Mr. Matthews reports that he continues to see Dr. Cxxx and views him as his primary physician. Current medications include Lacto Viden, Plaquenil, Biaxin, Nasonex, Endocet, Cyclobenzeprine, Neurontin, extra strength Tylenol, Aleve, St. Joseph Aspirin.

RECORDS REVIEWED:

_____ D.O. (PCP) 11/30/99-07/15/03
_____ MD (Infectious Disease) 12/31/01-02/12/02
_____ MD (Rheumatology) 02/05/02
_____ MD (Hematology) 02/12/02-03/06/02

_____MD (Gastroenterology) 04/26/02-07-15/03
_____MD (Rheumatology) 04/08/02-06/24/03
_____ MD (Musculoskeletal Diseases) 11/08/02
_____ MD (Infectious Disease) 04/07/03
_____ MD (Rheumatology) 04/10/03
_____ PhD (Clinical Psychology) June, 2003 Evaluation
_____ MD (Rheumatology) 07/01/03
_____ MD (Neurology) 08/20/03
_____MD (Physiatry) 01/16/04-05/21/04
Manchester Opthalmology (physician name illegible) 04/30/02
Numerous laboratory, imaging and other test results included within referring physician records

BEHAVIORAL OBSERVATIONS:
Mr. Matthews is a 49 year-old, right-handed, Caucasian male with who appears younger than his stated age. Testing is completed over two days. He initially presents as neatly groomed and casually dressed, intermittently using both glasses and a cane. He arrives at the second appointment quite disheveled, stating that the initial session (morning and early afternoon) had left him fatigued, and expressing his resentment at being subject to the testing process. This quickly dissipates, and testing is completed on the second day. Mr. Matthews is able to work for periods of over one hour without complaint or decrement in his performance. His gait is unremarkable, and it is unclear as to how he is using the cane. Mr. Matthews frequently complains of discomfort, particularly of the upper extremities, and intermittently (1+ hour) walks around the room in order to relieve discomfort in his body. He is noted to grimace, sigh, wring and rub his hands, and have trouble using a pencil. These manifestations of discomfort occurred during timed tests, thereby lowering the performance score due to non-cognitive reasons. Mr. Matthews wears glasses intermittently, noting changes in his vision since 2001. He denies any hearing impairment, but notes hissing and other sounds that bother him.

Mr. Matthews is a generally cooperative gentleman who is oriented to person, place, and time, with a good sense of elapsed time. Spontaneous speech is appropriate in content and normal in tone and volume with an above average vocabulary. There is no indication of aphasia, aprosodia or dysarthria. Thought processes are logical and goal directed with no evidence of a formal thought disorder. Mr. Matthews reports feelings of depression and anxiety, and is observed to be very focused on his illness, and all of its complexities and implications. He struggles to control his emotions, particularly when discussing the death of his mother and feelings toward Dr. Cxxx.

Mr. Matthews presents inconsistent response delays and is generally slower to respond than would be anticipated given his fluent, normal rate conversational skills. He exhibits good task persistence. He benefits from breaks at approximately every 1.5 hours. Direct observation and multiple validity measures demonstrate a pattern of likely symptom sensitization and/or exaggeration, therefore the current findings may underestimate Mr. Matthews's cognitive and psychological functioning at this time. Validity concerns will be addressed further in the report.

TESTS ADMINISTERED:
Clinical Interview and Record Review
Halstead-Reitan Battery
Wechsler Adult Intelligence Scale, Third Edition (WAIS-III)
Wechsler Memory Scale, Third Edition (WMS-III, selected subtests)
California Verbal Learning Test-II, (CVLT-II)
Test of Memory Malingering (TOMM)

Validity Indicator Profile (VIP)
Trailmaking A and B
Finger Oscillation
Hand Dynamometer
Sensory Screening
Minnesota Multiphasic Personality Inventory –II (MMPI-2)
Structured Interview of reported Symptom (SIRS)
West Haven-Yale Multidimensional Pain Inventory

TEST RESULTS:
Note: Except for tests published with standardized normative data and descriptive ranges, the descriptors of cognitive functions are based on the chart below and are adjusted on the basis of age-appropriate normative data and clinical judgment where indicated.

PERCENTILE	DESCRIPTOR
≥98 ----------	Very superior range
91-97 ----------	Superior range
75-90 ----------	High average range
26-74 ----------	Average range
9-25 ----------	Low average range
3-8 ----------	Borderline
≤2----------	Extremely low (Impaired)

Halstead Reitan:
Given apparent validity concerns and confounds of limited hand usage, H-R indices are not applicable. Individual subtests are discussed within the text below where relevant, and a summary sheet is attached.

General Intellectual Functioning:

WAIS-III 2004	Age Scaled Scores Mean=10 SD=3		Percentile Rank	Previous Age Scaled and Index Scores (2003)
Vocabulary----------	15	Superior Range	95th	15
Similarities----------	9	Average Range	37th	9
Arithmetic----------	3	Extremely Low Range	1st	11
Digit Span----------	4	Extremely Low Range	2nd	10
Information----------	14	Superior Range	91st	13
Comprehension----------	12	High Average Range	75th	11
Letter-Number Sequencing	5	Borderline Range	5th	NA
Picture Completion--------	12	Average Range	75th	10
Digit Symbol-Coding------	5	Borderline Range	5th	7
Block Design----------	9	Average Range	37th	8
Matrix Reasoning----------	7	Low Average Range	16th	5
Picture Arrangement-----	11	Average Range	63rd	10
Symbol Search----------	8	Low Average Range	25th	NA

Object Assembly----------	NA			NA
	IQ Scores Mean=100 SD=15			
Verbal IQ ----------	96	Average Range	39th	108
Performance IQ ---------	91	Average Range	27th	86
Full Scale IQ ----------	94	Average Range	34th	99
	Index Scores Mean=100 SD=15			
Verbal Comprehension--	114	High Average Range	82nd	
Perceptual Organization-	95	Average Range	37th	
Working Memory---------	63	Extremely Low Range	1st	
Processing Speed---------	81	Low Average Range	10th	

Contrary to prior testing, there is no discrepancy between Mr. Matthews's verbal and nonverbal intellectual abilities, which are in the average range and are an underestimate of his present ability. Mr. Matthews achieved lower than warranted scores on timed tests due to physical complaints, rather than a cognitive inability to perform the task. It is noteworthy that while general intellect and non-verbal skills appear consistent with prior assessment, significant decline (-2 SD) is noted in both digit span and basic arithmetic skills since 2003, contributing to a lower verbal IQ score. This pattern is not consistent with the literature on cognitive impairment observed in either Lyme Disease or SLE. This finding is consistent with apparent sensitization to and/or exaggeration of symptoms in the areas of basic math, memory and upper extremity use. Language based skills and general knowledge remain a significant strength and are superior.

Attention/Concentration: Basic attention and concentration skills are inconsistent across tasks. Whereas obvious tasks such as digit spans and sequencing strings of intermixed numbers and letter appear borderline or impaired, attending to, comparing and contrasting rhythmic patterns is within normal limits. Attentional problems are not evident during interview, and multi-step instructions are followed after one prompt.

Learning and Memory:

WMS-III 2003	Age Scaled Scores Mean=10 SD=3		Percentile Rank
Logical Memory I – Recall ----------	6	Low Average Range	9th
Faces I – Recognition ----------	6	Low Average Range	9th
Verbal Paired Associates I - Recall----	3	Extremely Low Range	2nd
Family Pictures I - Recall----------	5	Borderline Range	5th
Letter-Number Sequencing ----------	5	Borderline Range	5th
Logical Memory II – Recall ----------	4	Extremely Low Range	2nd
Faces II – Recognition ----------	8	Low Average Range	25th

Verbal Paired Associates II – Recall -	5	Extremely Low Range	5th
Family Pictures II – Recall ----------	6	Low Average Range	9th
Auditory Recognition – Delayed -------	4	Extremely Low Range	2nd
	Index Scores Mean=100 SD=15		
Auditory Immediate ----------	68	Extremely Low Range	2nd
Visual Immediate ----------	71	Borderline Range	3rd
Immediate Memory ----------	63	Extremely Low Range	1st
Auditory Delayed ----------	67	Extremely Low Range	1st
Visual Delayed ----------	81	Low Average Range	10th
Auditory Recognition Delayed ---------	70	Extremely Low Range	2nd
General Memory ----------	69	Extremely Low Range	2nd
Working Memory ----------		See WAIS-III Index	

Mr. Matthews's present memory functions appear to have declined (-1 SD) from prior testing in 2003. However, formal tests of memory malingering (TOMM) and forced choice recognition format (such as the CVLT-II) demonstrate borderline scores, indicative of symptom exaggeration. Also, Mr. Matthews's obtained scores on memory tests are inconsistent with direct observation, such as detailed discussion of his medical history, information he had heard on the radio and current events. He does appear to demonstrate some signs of a pathological psychological response when presented with lists of words or images, frequently stating his inability to remember stimuli, and producing scores more typical of individuals with severe brain damage, which is clearly not the case. It is impossible to discern whether or not Mr. Matthews has mild memory decline, as was suggested by his prior testing.

Language: Mr. Matthews's language-based functions are superior. His complaints of word finding difficulties are not evident on testing or in informal conversation and interview. Complaints of difficulty spelling are not evident on written history form completed independently.

Visuospatial: Mr. Matthews's overall perceptual organization skills are in the average range. Assessment of effort in this area (VIP) does not indicate malingering or symptom exaggeration. Numerous scores obtained on visuospatial tests are a likely an underestimate, due to pain complaint and subsequent confound of reduced speed of performance on timed tests.

Sensory/Motor: Sensory confrontation testing and screening (tactile, auditory and visual) is within normal limits with no suppressions or neglect. Motor speed as assessed through finger oscillation and tactile performance (TPT) both appear impaired, but again, this appears to be a peripheral issue related to hand discomfort rather than a cognitive problem. There is a concern regarding symptom exaggeration in grip strength. Previous physician comments regarding grip strength, while not formally measured, suggest strength WNL. Present formal testing with a hand dynamometer indicates extremely impaired function, especially of the dominant right hand, wherein a score of 1kg is obtained. This score appears inconsistent with observed functional use of the hand, such as picking up and lifting a wooden cane, book and full cup.

Executive Functions: Executive functions refer to cognitive abilities involved in the initiation, planning, sequencing, organization and control of behavior (Stuss & Benson, 1986). They incorporate basic abilities, such as working memory and inhibitory control, as well as complex overarching abilities, such as generating novel solutions and self-monitoring. Mr. Matthews's

executive functions appear reduced in the area of visual analytical/deductive reasoning. He is noted to have accurate self-appraisal skills, remarking, "I don't get this one" during a subtest wherein he had difficulty deducing the underlying principle.

Emotional Functioning: Formal validity measures of psychological tests (MMPI-2, SIRS) do not indicate malingering, but suggest an effort to over-control or 'look good'. Personality profile on the MMPI-2 demonstrates extreme scores on scales of hysteria and hypochondriasis, with clinically significant elevation in depression. This profile is characteristic of either somatization or somatic malingering. It is noteworthy that somatic malingering does not result in validity scale elevation due to limited item overlap on the MMPI-2, and therefore cannot be entirely discounted (FBS score borderline). However, it is my professional opinion based on clinical interview and history, that Mr. Matthews's personality profile is the function of a somatization disorder, wherein underlying physical and cognitive symptoms are amplified. Such individuals frequently manifest multiple waxing and waning symptoms, 'latch on to' symptoms and comments expressed by physicians, experience anxiety that they have some worse condition, eventually forming an identity around their illness and potential secondary gain. Mr. Matthews's profile demonstrates predominantly obvious depressive symptoms, with pain ratings and MMPI-2 scale elevations significantly exceeding those found among chronic pain patients based on samples available in the literature. Upon interview, Mr. Matthews appears and reports depression, as is noted in a number of medical records. His response to test items suggests a tendency to catastrophize and doubt his own abilities, thereby undermining his performance. Mr. Matthews denies suicidal or homicidal ideation, plan or intent. No formal thought disorder is evident. Alcoholism screening is negative. Psychological tests suggest that Mr. Matthews's somatization may not be immediately apparent, but becomes evident through sustained contact. Prognosis is not favorable and optimal outcome necessitates experienced clinicians, alleviation of depression, interventions to increase structure and productivity and a close-knit treatment team. Given Mr. Matthews's physician and naturopath treatment history, symptom patterns, risk for iatrogenesis, chronic pain, noted depression and anxiety in the record, prescribed anti-depressants and general lack of meaningful progress, it is surprising that he has not already been referred for psychiatric assessment by a clinician with expertise in somatic disorders and chronic illness, as well as a being treated through a more formally integrated team approach.

SUMMARY OF TEST FINDINGS:
Current test findings demonstrate generally average cognitive functions, memory and motor problem exaggeration, reduced visual analytic skills, and somatization in a 49 year old right handed male with superior language-based skills.

DIAGNOSTIC IMPRESSION (DSM-IV):

Axis I:	300.82	Undifferentiated Somatoform Disorder
Axis II:	V71.09	No Diagnosis
Axis III:	Chronic medical concerns with unclear etiology, presently assumed to be either a tick-borne illness, SLE or fibromyalgia	
Axis IV:	Problems related to the social environment – along much of the time with no reported friends or engaged family relationships other than wife Occupational problems – currently unemployed and on disability	
Axis V:	GAF = 50 (current)	

Referral Questions:

1. *Are Mr. Matthews's self-reported symptoms substantiated by the results of the testing?*

Mr. Matthews's test results are not substantiated by the results of his testing. Symptom exaggeration is evident, direct observation conflicts with both test results and complaints, and many functional skills are well within normal limits. Some tests results are consistent with a level of impairment well beyond Mr. Matthews's reported problems and lifestyle. Research with post-Lyme participants has demonstrated overestimation of cognitive problems with objective evidence demonstrating no significant difference from matched controls. Similar findings of inaccurate self-appraisal have also been observed in other health related conditions and depressed populations.

2. Based on the results of testing, are cognitive deficits present?
Due to the apparent symptom exaggeration in key functional areas, it is difficult to discern if there may be underlying decline beyond that of typical aging. There is indication of reduced visual analytical problem solving.

3. If there is/are deficit(s) present, please identify areas of strength or weakness.
As noted above, symptom magnification confounds results. Visual analytic skills appear reduced. Significant strengths are noted in language-related areas and general knowledge base.

4. If there is/are deficit(s) present, is the etiology of these deficits psychiatric or organic/encephalopathic?
Again, due to symptom exaggeration, it cannot be conclusively determined that there are no encephalopathic deficits. However, there is significant psychiatric etiology evident in the assessment, and no definitive encephalopathic syndrome. Test scores on face value are not consistent with the neurocognitive syndromes typically seen in either Lyme disease or SLE.

5. *Is there any evidence of malingering? Please explain*.
Yes there is evident of malingering including improbable scores on clinical tests, performance that conflicts with direct observation (motor) and verbalizations (interview and informal) and borderline scores on tests of malingering and forced choice formats (memory). Psychological testing profile is associated with either somatization or somatic malingering. Certain pain inventory scores appear extreme, beyond those of chronic pain clinical samples and observed symptoms.

6. What is Mr. Matthews's current cognitive functional capacity?
Mr. Matthews's cognitive functional capacity is difficult to discern given the complexities of symptom magnification, somatization and depression as overlay. He appears functionally impaired, in all likelihood far worse than his actual underlying neurocognitive status.

Thank you for your referral of this client. Please contact me should you require any additional information.

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