

Malingered Neurocognitive Dysfunction: Applying What We Have Learned to Individual Cases

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**Alternative Title:
No Amount of Group Research
Will Convince the Doubters**

Case 1: Three and Four years post stroke

- Left middle cerebral artery stroke; later lawsuit alleges malpractice by numerous physicians and hospital.
- Following acute treatment, extensive rehabilitation occurs, for motor, language, and cognitive problems.
- At the end of rehabilitation, records describe substantial progress, including the description that he is now “neurologically normal, except for mild word finding” and is able to work.
- Residuals would be expected, yet described as functionally effective. At end of rehab, he has applied for and been offered employment. He is able to drive a car.
- Related to the lawsuit, at age 39, neuropsychological evaluations by retained plaintiff expert and by retained defense expert.

Case 1: Effort findings 4 years post stroke

VSVT (Day 1)	Cor	Lat	WMT	% Cor
Easy	12	5.26	Imm. Rec	52.5
Difficult	8	7.06	Del. Rec	45
Total	20	6.16	Consist.	52.5

VSVT (Day 2)	Cor	Lat	Rey 15 Items	Cor
Easy	21	2.98	Recall	6
Difficult	1	4.89	Recog	6
Total	22	3.93		

TOMM	Cor
Trial 1	25
Trial 2	22
Retention	22

Rey 15 Items	Cor	1 Year prior at 3 years post stroke
Recall	5	
Recog	2	
TOMM	Cor	
Trial 1	20	
Trial 2	21	
Retention	21	

Case 1: Unrealistic findings 3 and 4 years post stroke

	<u>3 Yrs Post</u>	<u>4 Yrs Post</u>
Pegs DH	T = 14	T = 35 ↑
Pegs NDH	D/C	T = 43 ↑
WRAT Reading	SS=46 (Day 1) SS<45 (Day 2) ↓	SS=63 ↑

Case 1: Unrealistic findings 3 and 4 years post stroke

WMS-III

	<u>3 Yrs Post</u>	<u>4 Yrs Post</u>
LMI	ss=1	ss=2
LMII	ss=1	ss=1
VRI	ss=1	ss=4
VRII	ss=3	ss=4

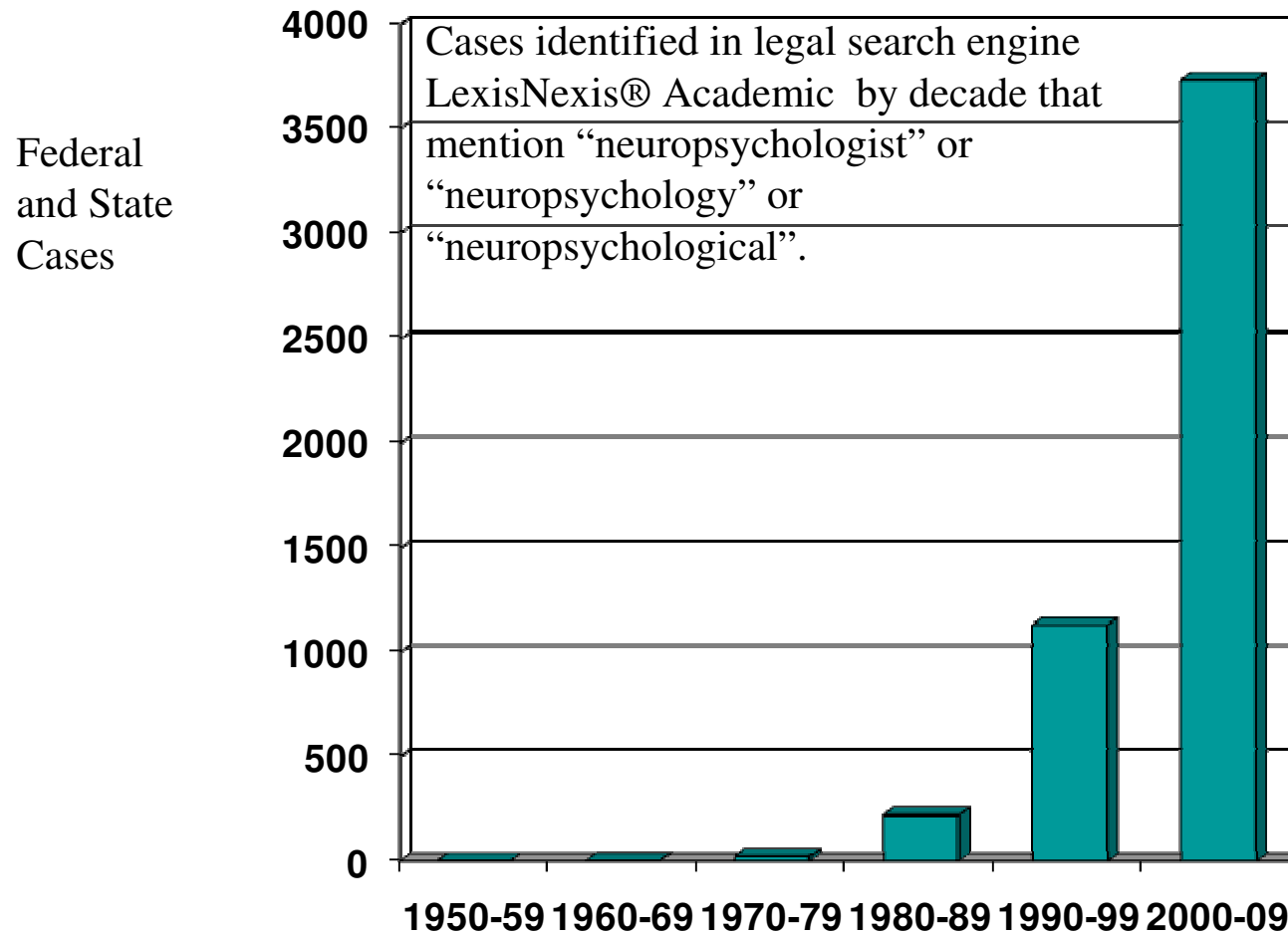
Plaintiff Expert Opinions

Two attempts at evaluation two months apart because effort was poor and identified as such on repeat administrations. Acknowledged that findings were unexpected and not explained by stroke. Nevertheless bases damages opinions on his findings. (Predictable from this expert...)

Defense Expert Opinions

Fails to recall autobiographical hx (DOB, SS#, spell name)
Strongly lateralized disorder with no lateralized effect.
History inconsistent (job offer, working).
Reading level inconsistent within/between exams + in deposition.
Findings inconsistent with real life (e.g., driving).
Malingering present in both evaluations.
Neither evaluation can be relied on.

Why it matters

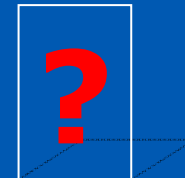


Sweet, J., & Westerveld, M. (2011). Pediatric neuropsychology in forensic proceedings: Roles and procedures in the courtroom and beyond. In E. Sherman & B. Brooks *Pediatric Forensic Neuropsychology*. New York: Guilford Press.

Case 2


30 y.o. woman in MVA causing “mTBI”

- (Ed=12; college prep, “As/Bs”, honor society)
- Prior to accident no college due to finances; massage therapist; after MVA went to college for X-ray tech
(↑ biology, math, english, computer; ↓ med terminology)
- Studied for & passed state licensure exam for massage therapy
- Evaluation by neuropsychologist 3 years post accident
 - Premorbid IQ Regr. Equations: Barona = 107 (demographics only)
OPIE-III (4 subtest) = 98 (based on performance, lower prediction)
 - Reading St Sc = 88 (approx. 11th grade)



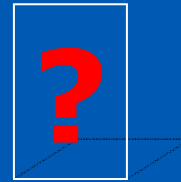
Case 2: Effort Measure

- Test of Memory Malinger

Trial 1 = 34 

Trial 2 = 50

Retention = 50



- If only this one stand-alone effort measure had been used to make a decision about response bias...many neuropsychologists might have come to the wrong conclusion...

Case 2: WAIS-III of “honor student”

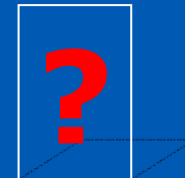
Unexpected

- VIQ=83
- PIQ=73
- FSIQ=76
- VC=88
- PO=76
- PS=84
- Similarities=7
- Arithmetic=6
- (No Digit Span)
- Information=6*
- Picture Completion=6*
- Digit Symbol=6
- Block Design=5
- Matrix Reasoning=7*
- Picture Arrangement=4

Only Slightly More Reasonable

- Vocabulary=10*
- Comprehension=10
- Symbol Search=8

Above average



Case 2: WMS=III

- Auditory Immediate = 77
- Auditory Delayed = 77
- Auditory Rec Delay = 90
- Working Memory = 60



Mental Control= SS 7

Letter-Number Seq.= SS 4

Digit Span = SS 2

Reliable Digit Span = 4 (raw)

Spatial Span = 1

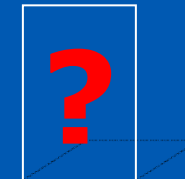
LM I= SS 4 (20)

LM II= SS 4 (8)

LM II % Retention = SS 5 (53%)

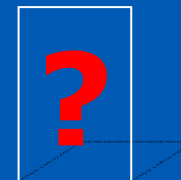
LM II Recognition = (24/30)

Overall Retention score=4th %ile



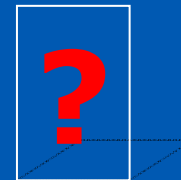
Case 2: Common Measures

- Trail Making Part A=38T; Part B=28T
- JOLO=9th%ile
- Hooper VOT=Probable impairment
- CPT-II=Normal
- Category Test=32T (No validity indicators surpassed)
- Finger Tapping/Grip/Purdue Pegs=Normal
- Letter Fluency=5th%ile



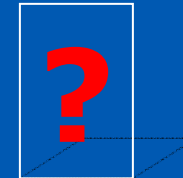
Case 2: MMPI-2

- FBS=30 raw (89T)
- RBS=16 raw (97T)
- F = 82T
- Hs= 92T
- D =87T
- Hy= 87T











Case 2: CVLT-II

	<u>Raw</u>	<u>Z</u>		<u>Recognition Components</u>	
Trial 1		<u>5</u>	<u>-1.5</u>	Recognition Hits	<u>11</u> <u>-5.0</u> ←
Trial 2		<u>9</u>	<u>-0.5</u>	Recognition FPs	<u>4</u> <u>1.5</u>
Trial 3		<u>9</u>	<u>-1.5</u>	Discriminability	<u>1.6</u> <u>-3.0</u> ←
Trial 4		<u>9</u>	<u>-2.0</u>	FC Recognition	<u>15/16</u>
Trial 5		<u>10</u>	<u>-1.5</u>		
Total 1-5	<u>42</u>	<u>36 (T)</u>			←
List B		<u>7</u>	<u>0</u>		
SD Free		<u>5</u>	<u>-3.0</u>		←
SD Cued	<u>9</u>	<u>-2.0</u>			
LD Free		<u>4</u>	<u>-4.0</u>		←
LD Cued	<u>7</u>	<u>-3.0</u>			←
Repetition	<u>0</u>	<u>-1.0</u>			
Intrusions	<u>1</u>	<u>-0.5</u>			
Lrng Slp		<u>1</u>	<u>-1.0</u>		
Rec Cons	<u>91</u>	<u>1.0</u>			
Sem Clust	<u>2.3</u>	<u>0.5</u>			



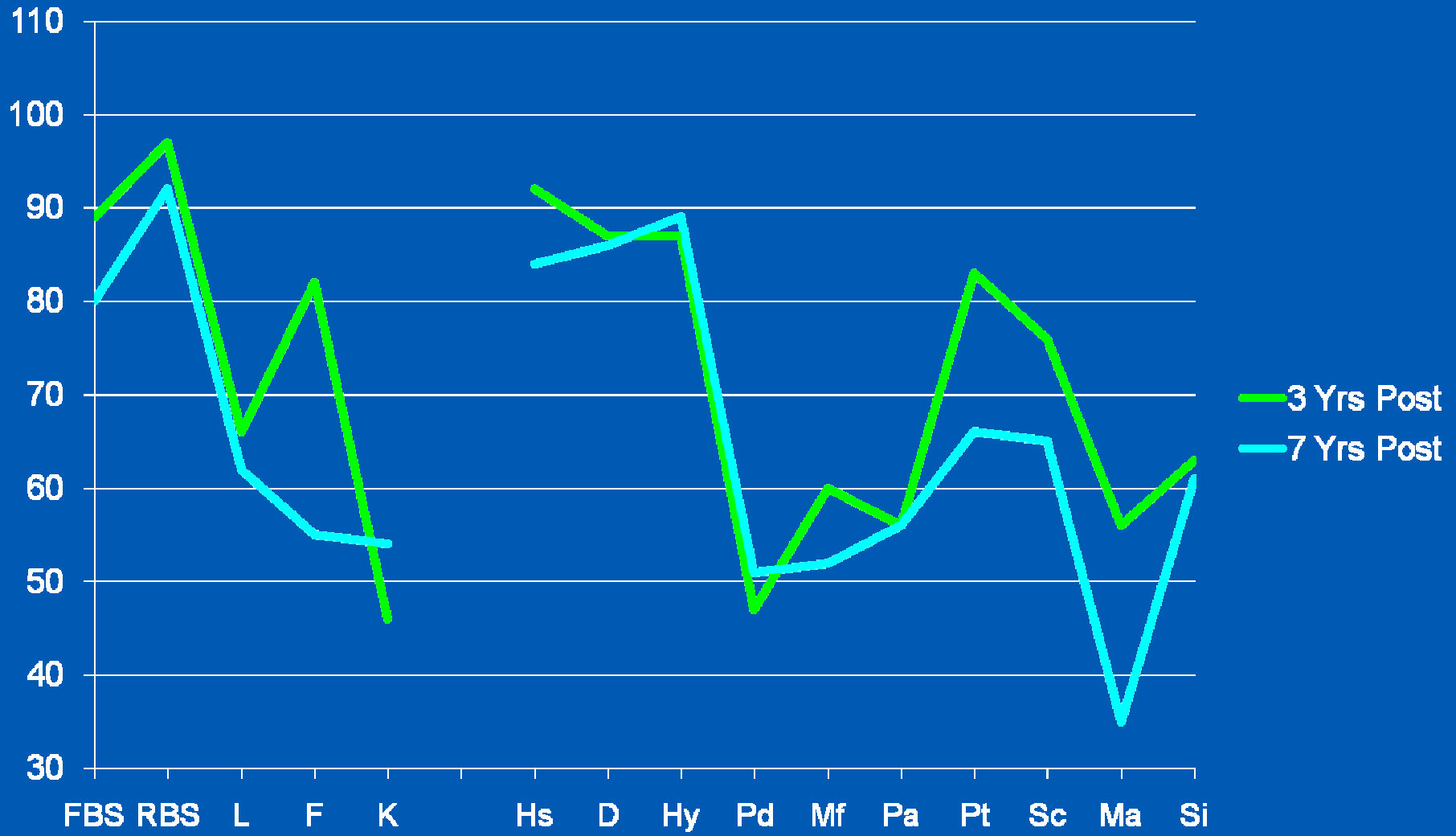
Case 2: Odds and Ends of Change From 3 Years to 7 years Post “mTBI”

- Grip Strength (DH) Average  Impaired
- Letter Fluency 5th %ile  2nd %ile
- Trails B Severely impaired  Low average
- Hooper Impaired  Not Impaired
- BDI Severe depression  Not depressed
- Similarities SS 7  SS 10
- Information SS 6  SS 9
- Picture Completion SS 6  SS 11



(Do even mTBI *true believers* think cognition improves during the interval from 3 to 7 years after the injury?)

Case 2: MMPI-2 Across Time



Case 2: SVTs in Second Evaluation for Litigation 7 years post MVA

VSVT – Day 1

Easy	<u>22</u>	<u>2.32</u>
Difficult	<u>20</u>	<u>3.60</u>
Total	<u>42</u>	<u>2.96</u>

VSVT – Day 2

Easy	<u>24</u>	<u>2.50</u>
Difficult	<u>12</u>	<u>3.58</u>
Total	<u>36</u>	<u>3.04</u>

WMT % Cor

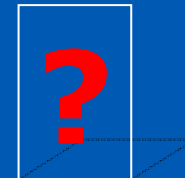
IR	<u>97.5</u>
DR	<u>87.5</u>
CNS	<u>90.0</u>

TOMM

Trial 1	<u>28</u>
Trial 2	<u>40</u>
Retention	<u>42</u>

TOMM (4 years prior)

Trial 1	<u>34</u>
Trial 2	<u>50</u>
Retention	<u>50</u>



Two Fundamental Differences Clinical vs. Forensic

- Research for decades has shown conclusively that behavior changes when contingencies change – forensic contingencies are not like clinical contingencies
 - *Implication – we must gather additional data*
- The focus on causation is far greater in forensic cases
 - *Implication – we have to ask ourselves additional questions and consider more extra-test information*

Back to Case 2

What if there had been no initial mTBI?

Car struck in left front while stopped waiting to turn. Seat belted. No deployment of air bag. Plaintiff later says “blacked out for a few minutes”. This is the sole self-reported observation of possible mTBI.

There were eyewitnesses and none agreed with plaintiff. A police officer was standing near the intersection...he walked to the car and tapped on the driver’s window within seconds. Driver responded normally; she had no retrograde amnesia or PTA. No evidence of any head strike. She declined medical help at the scene and was allowed to drive on to her destination...50 miles away. Her own MD the next day was not concerned and did not order any neuro tests or consults – considered to be neck sprain. The laundry list of physical and cognitive complaints came later. *Even the rare true believer in mTBI being a devastating condition should be skeptical here.*

Plaintiff had a well documented history of coping issues, social problems, and longstanding psychiatric problems & treatment.

Case 2: With no initial brain injury, what explains later behavior on SVTs and other tests?

Pain? No. Plaintiff worked in a physically demanding job.

By comparison, testing was not physically demanding. No pain treatment. No pain complaints; no pain behavior.

Fatigue/Stamina? No. Carrying on normal life. No unusual fatigue reported or observed during assessment.

Depression? No. At the second evaluation, plaintiff did not appear depressed, denied depression on interview, and reported none on depression inventory.

Response bias? Yes.

(1) Elevated validity scales on personality testing;
(2) failed effort tests that declined when encouraged to do better, and (3) unrealistic performances (including some failed embedded validity indicators in both evaluations) inconsistent with daily life.

FYI...the first neuropsychologist got it right as a treater!

Case 3

22 y.o. four years post head-on MVA

- MVA caused well-documented TBI:
 - retrograde amnesia less than one hour
 - post-traumatic amnesia of less than 24 hours
 - GCS =14
 - all medical records in treatment era describe injury as “mild”
 - imaging is positive for scattered small petechial hemorrhages, making this a complicated mild TBI
 - no post-accident cognitive rehab or psychotherapy
- Educational records show:
 - had repeated sixth grade
 - grades before and after accident similar, but performed better in algebra after the accident than before (C vs. F)
 - went on to graduate in bottom one fourth of class

Case 3

22 y.o. four years post head-on MVA

- After high school graduation he worked at a grocery store and later at a lumber yard (fork lift operator) with no problems and lived independently
- Also volunteered as a fireman and passed a related community college course, failed EMT course
- He currently works full time in a physical labor position and hunts, fishes, and works on cars
- Currently saving money for a heavy equipment course

Case #3: Intellectual Function

4 Yrs Post

FSIQ	80
WMI	80
PSI	74
Digit Span	6 (failed RDS)
Vocabulary	7
Arithmetic	7
Symbol Search	5

Case #3: Select Performances

	<u>4 Yrs Post</u>
Trails A	12 th %ile
Trails B	38 th %ile
Digit Span (admin both days of eval)	9 th /5 th %ile
Animal Fluency	3 rd %ile
COWA	16 th %ile

Case 3: CVLT-II

	<u>Raw</u>	<u>Z</u>		<u>Recognition Components</u>	
Trial 1		<u>5</u>	<u>-1</u>	Recognition Hits	<u>10</u> <u>-3.5</u> ←
Trial 2		<u>7</u>	<u>-1</u>	Recognition FPs	<u>4</u> <u>2</u>
Trial 3		<u>7</u>	<u>-2</u>	Discriminability	<u>1.6</u> <u>-2.5</u> ←
Trial 4		<u>7</u>	<u>-2.5</u>	FC Recognition	<u>12/16</u> ←
Trial 5		<u>6</u>	<u>-3</u>		
Total 1-5	<u>32</u>	<u>29 (T)</u>			←
List B		<u>4</u>	<u>0</u>		
SD Free		<u>3</u>	<u>-3.0</u>		←
SD Cued	<u>2</u>	<u>-2.0</u>			←
LD Free		<u>2</u>	<u>-4.0</u>		
LD Cued	<u>2</u>	<u>-3.0</u>			←
Repetition	<u>3</u>	<u>-1.0</u>			
Intrusions	<u>11</u>	<u>-0.5</u>			
Lrng Slp		<u>.2</u>	<u>-1.0</u>		
Rec Cons	<u>88</u>	<u>1.0</u>			
Sem Clust	<u>-0.1</u>	<u>0.5</u>			

Case 3: MMPI-2



Case 3: Change in Intellectual Function

	<u>3 Yrs Post</u>	<u>4 Yrs Post</u>	
FSIQ	89	80	↓
WMI	97	80	↓
PSI	94	74	↓
Digit Span	10	6	↓
Vocabulary	9	7	↓
Arithmetic	9	7	↓
Symbol Search	8	5	↓

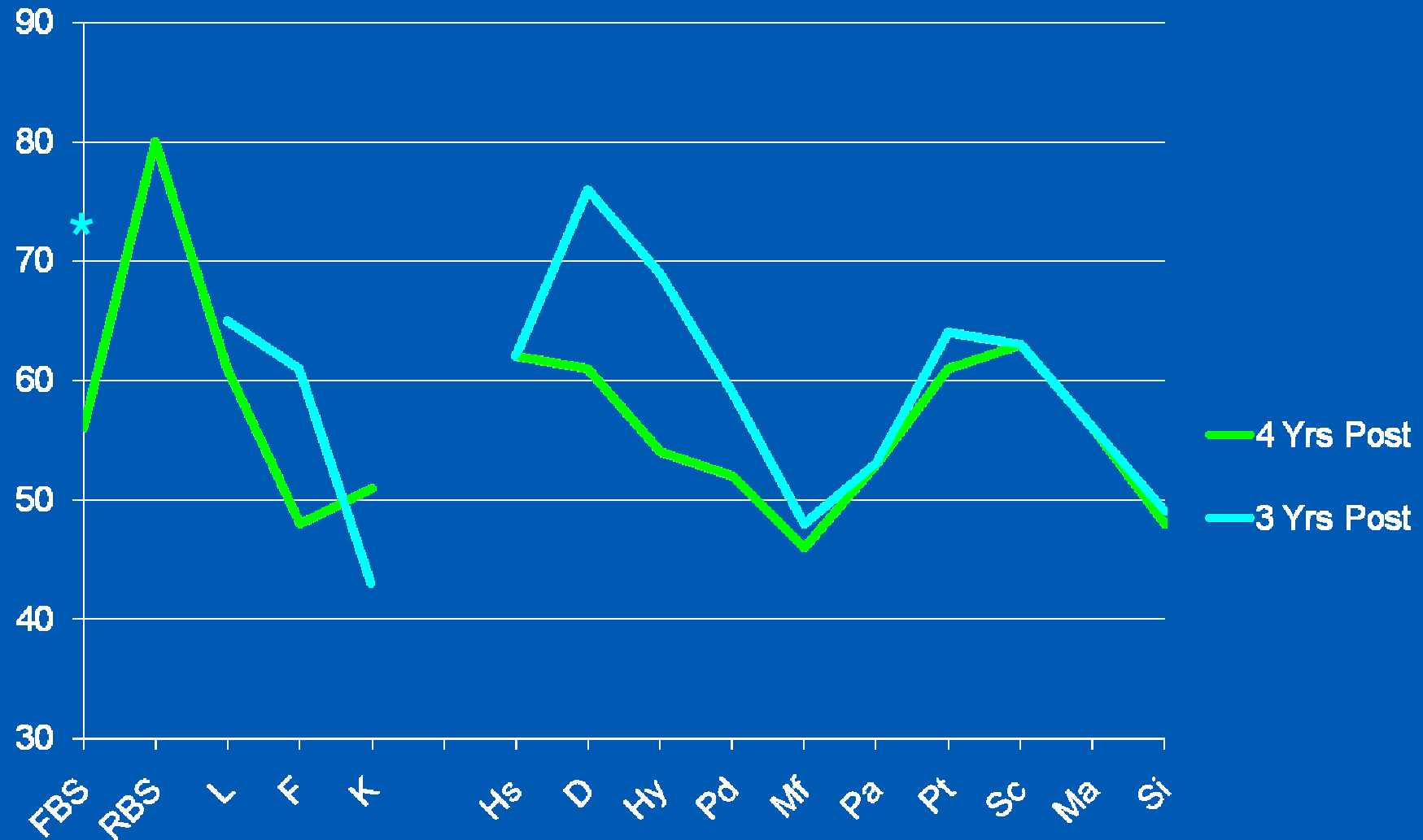
Case 3: CVLT-II Changes

	3 Yrs Post		4 Yrs Post	
	<u>Raw</u>	<u>Z</u>	<u>Raw</u>	<u>Z</u>
Total 1-5	<u>50</u>	<u>50 (T)</u>	<u>32</u>	<u>29 (T)</u>
SD Free	<u>8</u>	<u>-1.0</u>	<u>3</u>	<u>-3.0</u>
SD Cued	<u>10</u>	<u>-0.5</u>	<u>2</u>	<u>-2.0</u>
LD Free	<u>9</u>	<u>-1.0</u>	<u>2</u>	<u>-4.0</u>
LD Cued	<u>10</u>	<u>-1.0</u>	<u>2</u>	<u>-3.0</u>
Discriminability	<u>2.5</u>	<u>-1.0</u>	<u>1.6</u>	<u>-2.5</u>
FC Recognition		<u>16/16</u>	<u>12/16</u>	

Case #3: More changes across time

	<u>22 Days Post</u>	<u>2 Yrs Post</u>	<u>3 Yrs Post</u>	<u>4 Yrs Post</u>
Trails A	16 th %ile	55 th %ile ↑	70 th %ile ↑	12 th %ile ↓
Trails B	70 th %ile	42 nd %ile ↓	97 th %ile ↑	38 th %ile ↓
Digit Span	16 th %ile	9 th %ile ↓	50 th %ile ↑	9 th /5 th %ile ↓
Animal Fluency		37 th %ile	18 th %ile ↓	3 rd %ile ↓
COWA			83 rd %ile	16 th %ile ↓

Case 3: MMPI-2 changes



Case 3: Effort on SVTs at 7 Years Post MVA

VSVT Day 1

Easy 24/24 5.70

 Difficult 7/24 9.67

Total 31/48 7.68

WMT

Imm Rec

Del. Rec

Consist.

% Cor

82.5

72.5

65

VSVT Day 2

Easy 24/24 3.99

Difficult 11/24 7.59

Total 35/48 5.79

TOMM

Trial 1

Trial 2

Retention

33/50

36/50

34/50

Case 3: Weak effort measure declines but still fails to identify insufficient effort!

Rey 15 Item Memory Test:

	<u>3 Years Post</u>	<u>4 Years Post</u>
Correct Rows in Location	5/5	4/5
Correct Rows any Location	5/5	4/5
Correct Items in Location	15/15	10/15
Correct Items any Location	15/15	12/15

Unfortunately, no other effort measures were given prior to year 4.

Why would anyone rely on this measure in isolation?

Multi-Method Malingering Detection

(Not a new idea; recommended by every serious investigator)

- Use specific tests of insufficient effort.
- Identify worse than chance performances on common forced choice measures, but be aware of those measures on which higher levels of accuracy may still indicate insufficient effort.
- Examine nonsensical patterns on common measures.
- Examine excessive inconsistency of test scores within and across test sessions.
- Compare test functioning with activities of daily living, including external information.
- Look for self serving lifestyle changes without real losses.

Nies, K. & Sweet, J. (1994). Neuropsych assessment and malingering: A critical review of past and present strategies. *Archives of Clinical Neuropsychology*, 9, 501-552.

More Specific Approach: Multi-Method Malingering Detection – the “Slick Criteria”

Adequate classification generally requires¹:

- (1) specific definition of malingering of cognitive dysfunction
- (2) specific, unambiguous, reliable criteria that cover all sources of evidence (test-performance, observations, collateral data)
- (3) specification of the importance of diagnostic criteria
- (4) specification of the nature/role of clinical judgment
- (5) specification of differential diagnoses and exclusionary criteria
- (6) specification of levels of diagnostic certainty

These general criteria were designed to include formal specifications of levels of diagnostic certainty:

- Definite malingering
- Probable malingering
- Possible malingering

¹**Slick, D. J., Sherman, E., & Iverson, G. L. (1999). Diagnostic criteria for malingered neurocognitive dysfunction: Proposed standards for clinical practice and research. *The Clinical Neuropsychologist, 13*, 545-561.**

The “Slick” Criteria for Malingered Neurocognitive dysfunction (MND)¹

Definite MND

- (1) Presence of a substantial external incentive (Criteria A)
- (2) Definite negative response bias (Criteria B1: test performance $p < .05$ on forced-choice measure of cognitive dysfunction)
- (3) Behaviors of negative response bias not fully accounted for by psychiatric, neurological, or developmental factors (Criteria D)

¹Slick, D. J., Sherman, E., & Iverson, G. L. (1999). Diagnostic criteria for malingered neurocognitive dysfunction: Proposed standards for clinical practice and research. *The Clinical Neuropsychologist*, 13, 545-561.

“Slick” Criteria (cont).

Probable MND

- (1) Presence of a substantial external incentive (Criteria A)
- (2) Two or more types of the following **evidence from neuropsychological testing**, excluding definite response bias (Criteria B2-B6):
 - (a) probable response bias (i.e., performance on cognitive measures or exaggeration index consistent with feigning)
 - (b) discrepancy between test data and known patterns of brain functioning
 - (c) discrepancy between test data and observed behavior
 - (d) discrepancy between test data and reliable collateral reports
 - (e) discrepancy between test data and documented background history

OR one type of evidence from neuropsychological testing (excluding definite response bias) and one or more types of **evidence from self-report** (Criteria C1-5):

 - (a) self-reported history is discrepant with documented history
 - (b) self-reported symptoms are discrepant with known patterns of brain functioning
 - (c) self-reported symptoms are discrepant with behavioral observations
 - (d) self-reported symptoms are discrepant with information obtained from collateral information
 - (e) evidence of exaggerated or fabricated psychological dysfunction
- (3) Behaviors meeting necessary criteria from B and C are **not fully accounted for by psychiatric, neurological, or developmental factors** (Criterion D)

“Slick” Criteria (cont.)

Possible MND

- (1) Presence of a substantial external incentive (Criteria A)
- (2) Evidence from self-report (one or more of Criteria C1-5)
- (3) Behaviors meeting necessary criteria from group C are not fully accounted for by psychiatric, neurological, or developmental factors (Criteria D)

OR Criteria for Definite or Probable MND are met except for Criterion D (i.e., primary psychiatric, neurological, or developmental etiologies cannot be ruled out).

¹Slick, D. J., Sherman, E., & Iverson, G. L. (1999). Diagnostic criteria for malingered neurocognitive dysfunction: Proposed standards for clinical practice and research. *The Clinical Neuropsychologist*, *13*, 545-561.

Case 4: Possible very mild TBI

Treating neuropsychologist who performed three evaluations says the following in deposition statements:

- (a) historical description of the initial injury is not relevant, as test performance and observation of the patient are enough to make a diagnosis,
- (b) the pattern of test score performances and changes in performance across time are consistent with head injury, and could not be simulated, and
- (c) it is common to have brain injury without striking one's head.

Case 4: Possible very mild TBI

Treating neuropsychologist who performed three evaluations says the following in deposition statements:

- (a) historical description of the initial injury is not relevant, as test performance and observation of the patient are enough to make a diagnosis,
- (b) the pattern of test score performances and changes in performance across time are consistent with head injury, and could not be simulated, and*
- (c) it is common to have brain injury without striking one's head.

Case 4: 52 year old woman three years post MVA

- Accident described by her as “high speed collision”; described by medical personnel at the scene as “minor damage”.
- Talked normally to witness immediately after accident and able to provide info re medications and history to police and EMS.
- Good recall of accident scene events and events at hospital.
- Lots of pain at the scene; GCS=15. Taken to ED where all tests were normal. Discharge DX=cervical strain, small head contusion. Concussion not diagnosed.
- Hit jaw against steering wheel; required later dental procedure.
- Goes on to *develop* left-sided motor problems and reliance on cane. Neurologist later reports exam and tests normal; behaviors suggest a psychological component.
- Ophthalmologist reports exam is normal and odd visual complaints are non-physiologic.

Case 4: More history

- Master's degree in education; always a good student
- A teacher, but not working prior to accident
- Pre-accident “leg shaking” with no known etiology
- Pre-accident “passed out” with no known etiology
- Pre-accident carpal tunnel surgery and rehab was completed just prior to accident
- Abusive first marriage followed by depression treatment
- Day after accident primary care physician put her on two antidepressants

Case 4: Effort findings 3 years post MVA

VSVT (Day 1)	Cor	Lat	WMT	% Cor
Easy	24	2.07	Imm. Rec	80
Difficult	13	6.50	Del. Rec	80
Total	37	4.28	Consist.	70

VSVT (Day 2)	Cor	Lat	Rey 15 Items	Cor
Easy	24	1.84	Recall	14 wnl
Difficult	4	9.38	Recog	15 wnl
Total	28	5.61	Recog FP	0 wnl
			Combin	29 wnl
			Rows	4 wnl

TOMM	Cor
Trial 1	42
Trial 2	50
Retention	49



Case 4: Motor findings 3 years post MVA

	<u>Raw</u>	<u>T</u>
Tap DH	46.4 avg. taps	49
Tap NDH	36.8	40
Grip DH	32.5 kgs.	57
Grip NDH	15.5	33
Pegs DH	96 secs	27
Pegs NDH	165	17

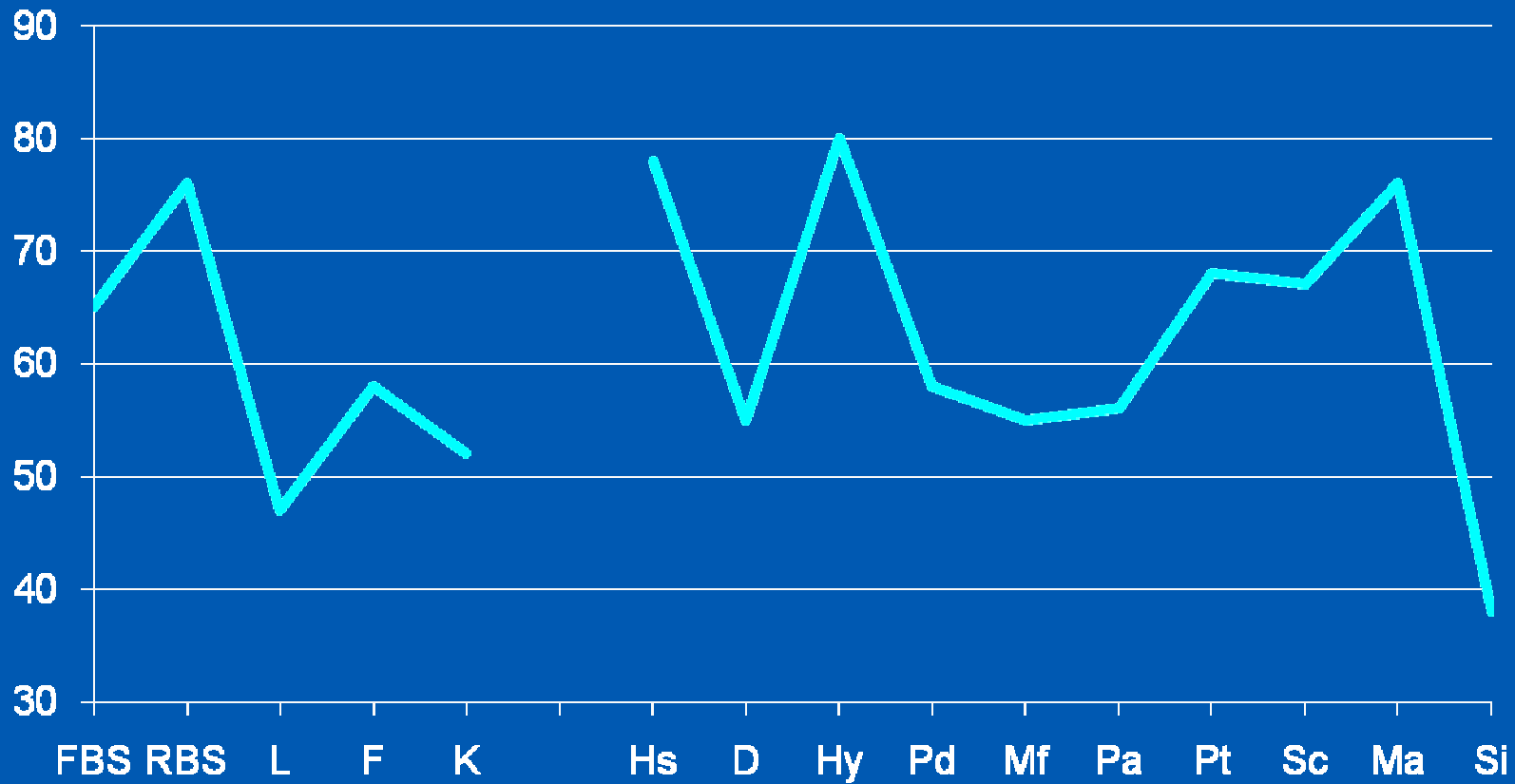
Case 4: Unrealistic findings across 3 years post MVA

	<u>1 Month Post</u>	<u>1 Yr Post</u>	<u>2 Yrs Post</u>	<u>3 Yrs Post</u>
JLO	“Severely Defective”	<2 nd %ile	22 nd %ile ↑	22 nd %ile
SrDig9	“Severely Impaired”	64 th %ile ↑	10 th %ile ↓	37 th %ile ↑
Trails A	“Average”	T=38 ↓	T=30	T=43 ↑
Trails B	“Normal”	T=20 ↓	T=29	T=43 ↑

Case 4: Unrealistic WAIS Findings Post MVA

	<u>1 Mo Post</u>	<u>1 Yr Post</u>	<u>2 Yrs Post</u>	<u>3 Yrs Post</u>
Similarities	ss=9	ss=12 ↑	ss=8 ↓	ss=8
Pic Comp	ss=10	ss=9	ss=9	ss=14 ↑
Block Des	ss=8	ss=7 ↓	ss=5 ↓	ss=7 ↑
Sym Search	ss=11	ss=10 ↓	ss=8 ↓	ss=10 ↑

Case 4: MMPI-2 and Becks



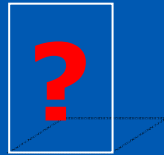
BDI-II = 20; BHS = 2; BAI = 26

Case 4: Was the initial psychological opinion correct?

Treating neuropsychologist who performed three evaluations says the following in deposition statements:

(b) the pattern of test score performances and changes in performance across time are consistent with head injury, and could not be simulated,

Rejoinder....



- Initial “severe” impairment on insensitive measures was not credible.
- Later variability, including absence of practice effects is not credible.
- If a mild uncomplicated TBI had taken place, years later the findings “consistent” with that would have been *normal* findings.
- Lateralized motor findings and severe motor dysfunction are not part of a real mTBI profile
- Finally, based on our SVTs, its clear that a head injury can be successfully “simulated”... it had already happened

Observations from Four Cases (Compatible with dozens of group studies)

- Despite the obvious need, not all practitioners believe symptom validity testing is necessary.
- Not all practitioners agree on what failing SVTs means, but the non-believers discount the failures in favor of a brain injury hypothesis that defies research data.
- Gross changes in test performance over time in litigants often support non-neurological explanations and are more likely explained by effort compromise, rather than pain, depression, and fatigue.
- Cognitive response bias, even extreme in the form of malingering, can be seen in the entire range of severity of acquired brain dysfunction.
- Evaluation of symptom validity is not the ‘whole story’, but it is an essential piece of understanding the ‘real story’.

Why do we lack “consensus” across the field of neuropsychology’s practitioners?

- Natural resistance to change: *Cognitive dissonance*
 - *Mistakes Were Made (But Not By Me): Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts* by social psychologists Carol Tavris and Elliot Aronson
- Active resistance to change: *I cannot be wrong*
 - Lillian Hellman, playwright, “It is considered unhealthy in America to remember mistakes, neurotic to think about them, psychotic to dwell upon them.”
 - Lord Molson, British politician, “I will look at any additional evidence to confirm the opinion to which I have already come.”
- Personal ‘politics’/personal world views
 - inappropriate notions of *helping* people
 - misplaced empathy
 - incentives

Strive to be a scientific expert

- Advocate objectivity, reason, logic
- Rely on empirical data interpreted with reason or logic
- Openly explore alternative explanations for the data
- Make inferences within context of base rates
- Welcome reasoned criticism, questioning, cross-examination
- Distinguish between observation and inference, and between empirical data and self report
- Read and rely on relevant literature; admit limitations of knowledge within field; admit errors when made

Lees-Haley, P., & Cohen, L. (1999). The neuropsychologist as expert witness: Toward credible science in the courtroom. In J. Sweet (Ed.) *Forensic neuropsychology: Fundamentals and practice*. Taylor & Francis: New York.

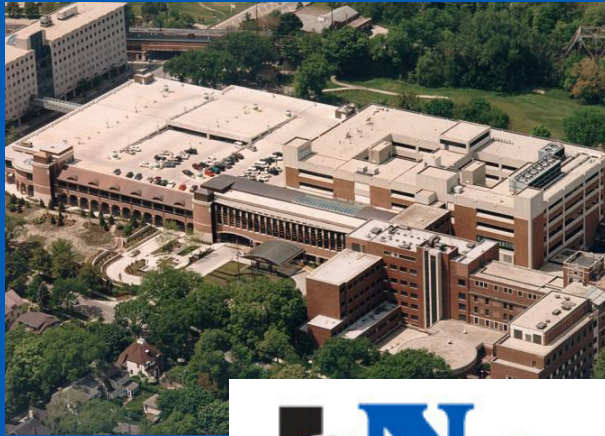
Forensic Cases Emphasize Causation

- Sir Bradford Hill's 1965 exposition of the decision-making process that can support or rule out causation is useful.
 - Strength of the association
 - Consistency of the evidence
 - Specificity
 - Temporal sequence
 - Biological gradient
 - Biologic rationale
 - Coherence
 - Experimental evidence
 - Analogous evidence

Hill, A.B. (1965). The environment and disease: Association or causation?
Proceedings of the Royal Society of Medicine, 58, 293-300.

van Reekum, R., et al., (2001). Applying Bradford Hill's criteria for causation to neuropsychiatry: Challenges and opportunities. *Journal of Neuropsychiatry & Clinical Neuroscience*, 13, 318-325.

Evanston Hospital



Glenbrook Hospital



Highland Park Hospital



Skokie Hospital