

A COMPUTERIZED COGNITIVE SCREENING BATTERY FOR PSYCHIATRISTS

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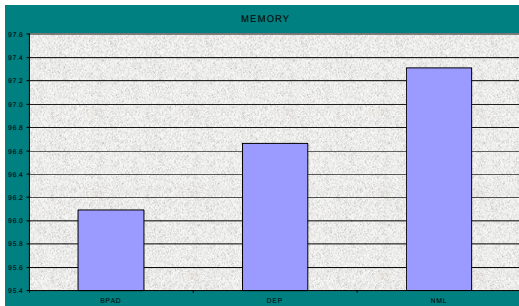
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- OBJECTIVES:**
1. To introduce psychiatrists in practice to a new procedure for evaluating neurocognitive function in their patients.
 2. To introduce a reimbursable clinical procedure that is computer-based and suitable for psychiatric practice.

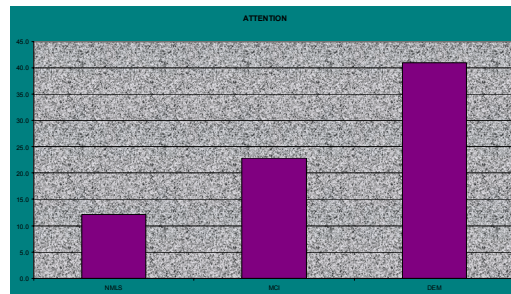
A PC-based neurocognitive screening battery was developed to measure visual and verbal memory, attention, psychomotor speed, reaction time and executive function. The tests in the **CNS Vital Signs** battery are highly reliable (test-retest, $r = 0.65-0.85$). Normative data from 600 normal subjects, age 10-90, indicates typical performance differences by age and gender. Performance on the Vital Signs battery is comparable to conventional neuropsychological tests. The battery generates distinct profiles for ADD, mild cognitive impairment and dementia. It is sensitive to cognitive deficits associated with depression and bipolar disorder. Data also support the sensitivity of the Vital Signs battery to psychostimulant drugs in patients with ADD. In a study of 296 depressed patients on seven different antidepressants, compared to 50 untreated depressives and 392 normal matched controls, distinct profiles emerged in measures of Memory, Attention and Reaction Time.

Computerized neurocognitive testing is a useful procedure for psychiatric practice. It is accurate, well-accepted by patients and economically feasible. It enhances diagnosis and treatment monitoring.

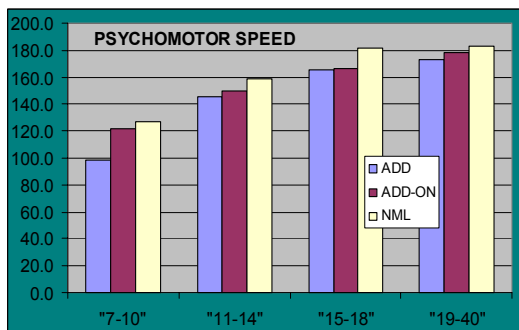
BPAD v DEP V NMLS



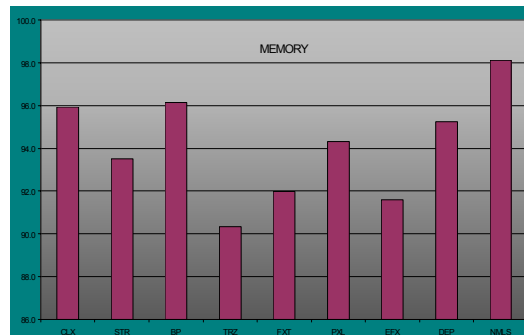
NMLS v MCI v DEM



ADD's off & on meds, NMLS



PATIENTS ON ANTIDEPRESSANTS



THE COMPARATIVE NEUROCOGNITIVE EFFECTS OF SIX ANTIDEPRESSANTS

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OBJECTIVES: To measure the differential effects of commonly prescribed antidepressants on neurocognitive performance.

METHOD: The CNS Vital Signs screening battery is a new, PC-based instrument comprised of seven familiar tests: Verbal and Visual Memory, Finger Tapping, Symbol Digit Coding, the Stroop test, Shifting Attention and the Continuous Performance Test.

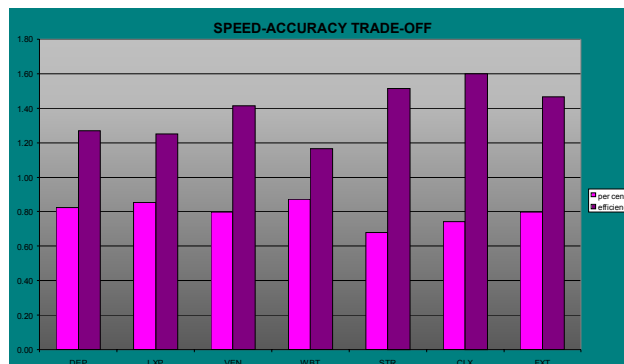
The test battery was administered to 255 depressed patients on six antidepressants: bupropion (40), citalopram (32), escitalopram (56), fluoxetine (36), sertraline (36), and venlafaxine (55); compared to 37 matched comparison patients who were depressed but not on medication.

RESULTS: Bupropion (BP) was consistently superior to the other five antidepressants. On 32 variables, patients on BP scored first on 27 and second on 4. Combining variables generated this order of ranks:

Bupropion	1.2
Escitalopram	2.7
Fluoxetine	3.7
Venlafaxine	4.0
Citalopram	4.6
Sertraline	4.8

CONCLUSION: Modern antidepressants are not equivalent with respect to their neurocognitive effects. Computerized monitoring of patients of antidepressants could potentially be a guide to prescription and improve treatment.

DRUG	ETP	VEN	BP	STR	CTP	FXT
AGE	40.7	39.1	39.2	38.4	36.8	40.1
N	56.0	55.0	40.0	36.0	32.0	36.0
VBMiy	3	6	1	4	5	2
VBMIn	3	2	1	6	4	5
VBMdy	3	6	1	2	4	5
VBMdn	4	1	2	6	3	5
VBMtot	2	4	1	5	3	6
VIMiy	5	6	4	3	1	2
VIMIn	4	2	1	6	3	5
VIMdy	1	5	2	3	6	4
VIMdn	5	3	2	6	1	4
VIMtot	3	5	1	6	2	4
MEM	3	4	1	6	2	5
Rtaps	2	4	1	5	6	3
Ltaps	2	3	1	5	6	4
SDCcorr	3	2	1	6	5	4
MS	2	3	1	5	6	4
SDCerr	5	4	2	6	3	1
STsrt	3	5	1	6	4	2
STcrt	2	5	1	3	6	4
STstrt	2	6	1	3	5	4
RT	2	6	1	3	5	4
STRerrs	3	2	1	5	6	4
SATcorr	2	3	1	5	6	4
SATerr	2	4	1	6	5	3
CF	2	3	1	6	5	4
SATrt	3	4	1	2	6	5
per cent	2	4	1	6	5	3
efficiency	2	3	1	5	6	4
CPTcorr	2	5	1	4	6	3
CPTom	2	5	1	4	6	3
CPTcom	4	3	1	5	6	2
ATT	2	4	1	6	5	3
CPTrt	2	5	1	4	6	3
MEAN	2.7	4.0	1.2	4.8	4.6	3.7



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