CNS Vital Signs Advancing Multiple Sclerosis Care

Adding Value to Your Practice by Providing Solutions for Measuring, Monitoring and Managing Neurocognitive and Behavioral Health...

www.CNSVS.com
The following pages have been assembled from various sources and publications and is meant to be a reference or roadmap guide to assist and inform how CNS Vital Signs can be used to improve clinical insight and care management, enable current guidelines, be integrated into a clinic or practice, and help improved practice revenues and performance.
Why CNS Vital Signs?

CNS Vital Signs valid, reliable, and affordable ‘research quality’ NEUROCOGNITIVE & BEHAVIORAL HEALTH assessment platform can be easily configured and deployed depending on each practices or researchers needs and goals. The CNS Vital Signs assessment platforms helps to support a practices comprehensive, state-of-the-art clinical assessment, and evidence-based treatment services for children, adolescents, and adults across the lifespan by:

- Accurately measuring and characterizing a patient’s neurocognitive function based on his or her status or effort
- Facilitating the thinking about the patient’s condition (50+ well known medical and health rating scales) and helping to explain the patient’s current difficulties
- Optimizing serial administration which helps to monitor and guide effective intervention.
- Systematically collecting brain function, behavioral, symptom, and comorbidity data enabling outcomes and evidence-based medicine

Enhanced Brain & Behavior Evaluation and Care Management

OBJECTIVE, PRECISE, and STANDARDIZED... Customizable Toolboxes or Test Panels Supporting many Neurological, Psychiatric, & Psychological Clinical Guidelines

Extend Practice Efficiency

Objective and Evidence-Based Assessments, Auto-Scored and Systematically Documented. (HIPAA Enabled)

Enhanced Revenue Streams

Expanded Services with Well Established Billing Codes to Improve Practice Referrals and Performance
Why CNS Vital Signs in Multiple Sclerosis?
Benefits for Multiple Sclerosis Clinics

**National Multiple Sclerosis Society: Expert Opinion Paper Summary**

### Assessment and Management of Cognitive Impairment in Multiple Sclerosis
- Cognitive deficits appear to be present in more than half of MS patients, *however the majority of persons with MS do not have impairments that significantly impair daily functioning*
- Learning/memory, speed of information processing, working memory, cognitive flexibility and other executive functions appear to be most commonly impaired
- *Periodic screening for such deficits is recommended.*
- Intervention for such deficits is recommended: Training in strategies to compensate for deficits, Counseling / psychotherapy for patients and family to address accompanying behavioral changes and emotional responses, and develop realistic expectations
- Treatment with medications (disease-modifying and/or symptomatic therapies)

### Enhanced MS Evaluation, Management & Tracking Strategies
- *CNS Vital Signs provides a valid, reliable and granular view of neurocognitive status*
- **Efficient:** Reports are Auto-Scored in seconds and Screens for possible in-valid tests
- **Multi-Modal Assessment platform** allowing for improved *Comorbid Symptom identification and management* e.g. Fatigue, Depression, Mood, Quality of Life / Outcomes, Etc.
- **Longitudinal reports** auto-generated to monitor and measure e.g. treatment outcomes

### Increased Revenues

*The standard for specific assessment of cognitive function in MS patients has been the comprehensive neuropsychological assessment. Adding CNS Vital Signs for the early detection, characterization, and monitoring of MS cognitive dysfunction progression should be part of routine care as an in-take baseline, as part of a full neuropsychological assessment and periodic retesting providing clinicians with a valid and reliable longitudinal view that can be beneficial both clinically and in counseling patients and working with family members.*
How Can CNS VS Help?

Etiology of MS

Genes & Environment

Abnormal Immune Response

Multiple Sclerosis

Immune Stimulation (Infections?)

Secondary Factors

Worsening MS


Where the CNS Vital Signs Assessment Platform can add efficiency, validity, and standardization to the assessment of brain functions, symptoms, and treatment effects.

Cycle of Symptoms

Cognitive Function

Fatigue / Depression

Exercise

Sleep

Bladder Problems

Spasticity / Constipation

About CNS Vital Signs?
Assessing Brain Function: CNS Vital Signs is a clinical testing procedure used by clinicians to evaluate and manage the neurocognitive state of a patient. Across the lifetime, serial testing allows ongoing assessments of a patient’s condition, disease progression, or clinical outcome.

About CNS Vital Signs
Both Valid & Reliable Neurocognitive Testing and Evidence-Based Symptom & Functional Ratings Scales in one Platform

Optimized for...
- **MULTI-MODAL Assessment** enabling the efficient collection and systematic documentation of important brain function and behavioral, symptom and comorbid clinical endpoints
- **Lifespan Testing** - Rapid Neurocognitive Testing from ages 8 to 90
- **Longitudinal View** - CNS Vital Signs contains an Auto-Randomization Algorithm... Ideal for Serial Neurocognitive Testing with an almost unlimited number of alternate forms (others use a pseudo-randomization or limited number of alternate forms)
- **Flexible Deployment** - Easy Integration via Local Computer Software and Web-Based Testing Solutions... Ideal for busy clinics, hospitals, or academic research

Clinician Benefits
- **RAPID INSIGHT**... computerized neurocognitive testing helps clinicians evaluate and describe the health of the cognitive or higher functions of the brain in a more granular and standardized fashion.
- **DASHBOARD VIEW**... Neurocognitive domain functions and functional status is presented in a summary view that is easy to interpret.
- **LONGITUDINAL VIEW**... Repeated testing allows clinicians to track disease progress and treatment/rehabilitation effects
- **DETAILED VIEW**... Each report presents the testing data in a detailed view. All results can be easily exported to EMR’s or spreadsheets for clinical or research purposes.
- **VALID ACROSS the LIFE SPAN**... Peer reviewed normative data allows clinicians to examine patients from age 8 to 90.
About: CNS Vital Signs in Multiple Sclerosis

CNS Vital Signs provides clinicians and researchers with leading edge neurocognitive and behavioral health assessment technologies that efficiently collects valid and reliable brain & behavioral clinical endpoints for a more objective view of a patient’s functional status, disease progression, and outcomes. The CNS Vital Signs Assessment platform supports a lifespan chronic care model and helps enable productive interactions between the family, caregivers, and a specialist practice team.

CNS Vital Signs is a clinical procedure that utilizes scientifically validated objective tests to evaluate the neurocognitive status of patients and covers a range of mental processes from simple motor performance, attention and memory, to executive functions. The CNS Vital Signs tests are computerized versions of well established neuropsychological tests. Medical professionals and researchers know that good health has many dimensions, one of the most important and yet least measured is the health of a person’s brain. Outcomes based medicine seeks a quantitative estimate of the effect of impairment or disease and the effectiveness and efficiency of treatment. CNS Vital Signs provides a standardized and quantitative view of your patient’s CORE COGNITIVE FUNCTION.

CNS Vital Signs computerized neuropsychological tests can enhance efficiency and insight in assessing cognitive status and the difference between “normal performance” and a patients current status and provides the clinician with a normative comparison that can be paired with an interview, exam, and other valid test(s) or rating scales to help add validity to the evaluation and management of Multiple Sclerosis. Re-evaluation or serial testing with CNS Vital Signs supports the effective management and tailoring of treatments e.g., medications and assessment of outcomes. A very detailed assessment of abilities is auto-scored, and the pattern of strengths and weaknesses can be used in treatment planning and measuring progress.

One of the most robust features of the CNS Vital Signs assessment is its randomization algorithm allowing for an almost infinite number of alternate forms. This allows for retesting patients and minimal practice effects. Clinicians establish a baseline and upon re-test, compare the results to assist in decision-making regarding the observed change in the patient’s condition, monitor disease or recovery progress, measure treatment results, compliance, and outcomes e.g., Therapy Management, Medication Optimization , Etc. Often Patients and families benefit from seeing testing results allowing the understanding of the status and nature of their or a loved one’s neurocognitive function. CNS Vital Signs is one of many tools clinicians use in evaluating changes in a patient’s condition.

If you have question or would like to register for a free in-service webinar go to www.CNSVS.com or email support@cnsvs.com or call 1.888.750.6941.
Why Use CNS Vital Signs to Assess MS?

The CNS Vital Signs VSX Assessment Platform represents a legacy of innovation and a commitment to advancing neurocognitive and behavioral clinical assessment tools.

**Clinical Pathology**  
**Measure and Monitor**

Assess BRAIN FUNCTION and Determine the Existence or Level of IMPAIRMENT...

CNS Vital Signs computerized neurocognitive testing allows clinicians to assess abnormal neurocognitive impairment by comparing patients to a ‘PEER REVIEWED’ normative data set from ages 8 to 90 across the lifespan.

Provides a broad spectrum of clinical domains and the sensitivity to assess neurocognitive function to reveal abnormal cognitive function.

**Comorbid Status**  
**Measure and Monitor**

Assess symptoms or COMORBID conditions...

Evidence-based rating scales and neurocognitive testing can help clinicians sort out symptom, behavioral, and comorbid issues and help better understand possible brain and behavior relationships.

50+ Free Rating Scales:
- SF – 36 Medical Outcomes
- Zung Self-Rating Anxiety and Depression Scales
- NeuroPsych Questionnaire NPQ-207 & NPQ-45 both Child & Adult

**Serial Assessment**  
**Longitudinal View**

KEY ADVANTAGE

...contains an auto-randomization algorithm... Ideal for serial testing with an almost unlimited number of alternate forms (other systems use a pseudo-randomization or limited number of alternate forms).

This allows practices to shift toward new assessment approaches that allow for monitoring of change and the reinforcement of treatment compliance.

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Neurocognitive function in MS patients can vary and affect various sites within the brain, no single cognitive deficit pattern is characteristic of all patients with MS. However, specific deficits tend to be seen in MS. These deficits include problems with memory, attention, executive functioning, generative fluency, and information processing speed. Adapted from: Rao et.al.; Heaton et.al.; Benedict et.al.
Advancing MS Care Management
CNS Vital Signs Multiple Sclerosis Toolbox

Clinician Expertise

- Brain Function: Processing Speed, Memory, Attentional, Executive, Psychomotor Speed & more
- Behaviors, Symptoms, and Comorbidities

Computerized Neurocognitive Testing

- Nine Neurocognitive Domains Measured
- Processing and Psychomotor Speed
- Frontal Lobe / Executive & Attentional Tests
- Recognition Memory – immediate and delayed recall
- Immediate Auto – Scored Reports
- Rapid Assessment – 30 -45 Minute initial Assessment/Baseline, 15 - 45 Minute for monitoring
- Easy to interpret and longitudinally graph
- Systematic & Standardized Documentation for Patient Registry/Research
- HIPAA Compliant

Computerized Medical and Health Rating Scales*

- SF – 36 Medical Outcomes
- Zung Self-Rating Anxiety and Depression Scales
- NeuroPsych Questionnaire NPQ-207 & NPQ-45 both Child & Adult
- Epworth Sleepiness
- Pittsburgh Sleep Quality Index

* Used with permission... Free use of rating scales
CNS Vital Signs MS Toolbox

MOS SF-36... Widely Used Measure

Physical function
Role function-physical
Pain
General Health

Physical Health

Mental Health

Role function-emotional
Emotional Well-Being
Social function
Energy / Vitality
Fatigue
CNS Vital Signs Neurocognitive Battery in Multiple Sclerosis

Results: Utilizing data from all 42 patients together, there was a diffuse pattern of cognitive impairment compared to age-matched controls in all cognitive domains tested (p<0.02). However, when divided into high and low functioning groups, the high functioning group had a more specific cognitive pattern, with particular difficulties with complex information processing (symbol digit coding, shifting attention test) and working memory. The low functioning group continued to have a diffuse impairment pattern.

Conclusions/Relevance: With a cognitively high functioning group of RRMS patients with well controlled MS, a subcorticofrontal pattern emerges, with particular difficulties with complex information processing and working memory. The cognitive pattern is much more diffuse with the low functioning group, even after controlling for motor speed and overall reaction time. These results could help explain the variance in cognitive testing that can be seen in MS patients.

Adapted from: AAN 2009; Higher Cognitively Functioning Relapsing-Remitting Multiple Sclerosis Patients Have a More Specific Pattern of Impairment on Neuropsychological Testing Sandeep Vaishnavi, MD, PhD, John Barkenbus, MD, C. Thomas Gualtieri, MD; NC Neuropsychiatry; Raleigh & Charlotte, NC

The CNS Vital Signs Sleep Toolbox helps clinicians systematically collect brain function, symptoms, and comorbidities data, automatically scoring and systematically documenting the resulting clinical endpoints.
Computerized neuropsychological battery detects psychomotor processing speed impairment as the core cognitive deficit in relapsing - remitting multiple sclerosis patients

Messinis L., PhD., Anyfantis E., M.Sc., Lyros E., MD, PhD., Papathanasopoulos P., MD, PhD Department of Neurology, Neuropsychology Section, University of Patras Medical School, Greece; 7th International Congress on the Improvement of the Quality of Life on Dementia, etc; Thessaloniki, Greece, 29 January 1st February 2009

Discussion and Conclusions

Our findings support the literature that RRMS patients present cognitive impairments when compared to healthy controls [7]. Furthermore, measures of information processing speed appear to be the most robust and sensitive markers of this impairment [8], a finding confirmed by our data.

These results also indicate that the CNS vital signs battery is able to detect cognitive impairments in RRMS patients. Furthermore, it appears to be highly sensitive in detecting psychomotor processing speed deficits in RRMS patients with a low disability status, as were the patients in this study.

We conclude, that RRMS patients present cognitive deficits even in the absence of significant physical disability, and that these patients should be routinely assessed for cognitive decline. The CNS Vital signs neuropsychological battery could provide the non-neuropsychologist clinician with a reliable screening tool for detecting cognitive deficits in RRMS patients.

<table>
<thead>
<tr>
<th>Cognitive Domain</th>
<th>RRMS (n=30)</th>
<th>Controls (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>93.8 (8.5)</td>
<td>94.7 (5.8)</td>
</tr>
<tr>
<td>*Psychomotor Speed</td>
<td>155.23 (20.68)</td>
<td>177.86 (22.02)</td>
</tr>
<tr>
<td>Reaction Time</td>
<td>682.06 (115.08)</td>
<td>658.97 (82.25)</td>
</tr>
<tr>
<td>*Complex Attention</td>
<td>8.8 (6.2)</td>
<td>5.8 (2.6)</td>
</tr>
<tr>
<td>*Cognitive Flexibility</td>
<td>38.4 (15.2)</td>
<td>45.6 (10.10)</td>
</tr>
</tbody>
</table>

*Significant difference between groups (p<.05) based on parametric t-tests

<table>
<thead>
<tr>
<th>Variables</th>
<th>RRMS (n=30)</th>
<th>Controls (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Age</td>
<td>34.6 (8.4)</td>
<td>35.4 (7.6)</td>
</tr>
<tr>
<td>*Sex</td>
<td>27 females / 3 males</td>
<td>23 females/ 2 males</td>
</tr>
<tr>
<td>* Education (yrs)</td>
<td>12.2 (3.0)</td>
<td>12.7 (2.6)</td>
</tr>
<tr>
<td>* $ Estimated Intelligence level</td>
<td>98.50 (12.30)</td>
<td>99.40 (11.65)</td>
</tr>
<tr>
<td>Disease duration</td>
<td>5.8 (4.6)</td>
<td>-</td>
</tr>
<tr>
<td>EDSS (disability status)</td>
<td>2.8 (1.4)</td>
<td>-</td>
</tr>
</tbody>
</table>

*Non significant difference between groups (p<.05) based on parametric t-tests (age, education, intelligence level) and x² test (sex)

$ Intelligence (IQ) was estimated by administering the vocabulary and matrix reasoning subscales of the Wechsler abbreviated scale of intelligence (WASI), Greek-adapted version [6]
The Neuropsych Questionnaire (NPQ) Short Form (SF - 45) provides a subjective measure of 13 neuropsych symptoms. The symptoms are Attention, Impulsive, Memory, Anxiety, Panic, Depression, Mood Stability, Oppositional (child – adolescent), Aggression, Fatigue, Sleep, Suicide, and Pain. The shorter NPQ version is used to monitor or follow-up with the patient before or during their visit. The NPQ 45 can be used when the longer version is either impractical or inappropriate e.g. the physician wants a quick view of their patients core symptoms. Both versions are automatically scored and the data stored.
Computerized Neurocognitive Testing can Help Assess Cognitive Function vs. Possible Comorbidities

Cognition and Depression

“Indeed, there is some suggestion that cognitive or executive functioning deficits may be a trait risk factor for depression (Douglas and Porter, 2009; Frasch et al., 2009; Micco et al., 2009; Reppermund et al., 2009). Furthermore, worse neuropsychological test performance at baseline is associated with poorer response to treatment (Dunkin et al., 2000; Kampf-Sherf et al., 2004; Mohlman and Gorman, 2005), and cognitive deficits are more pronounced in patients who are unemployed (Baune et al., 2010). It is possible that treatment refractory depression is a subtype characterized in part by cognitive impairment.”

The accurate identification and quantification of neurocognitive impairment are important for research relating to neurobiological underpinnings, treatment, and functional outcome in patients with mood disorders. It is essential, methodologically, that we have accurate methods for identifying those patients who are objectively cognitively impaired and separate them from patients who have the subjective experience of poor thinking skills or thinking that is easily perturbed by negative affect, but perform normally on cognitive testing in controlled conditions. The treatments and outcomes for these two groups may differ markedly, as well as the prognosis.”


Cognition and Depression

**Cognitive Flexibility**

Domain scored from two venerable AD/HD tests

![Graph showing distributions of CNS Vital Signs cognitive flexibility index score in patients with or without impaired cognition.](image)

Fig. 3. Distributions of CNS Vital Signs *cognitive flexibility* index score in patients with or without impaired cognition. Figure note: Healthy control, N=660. Mood disorder, normal cognition, n=128. Mood disorder, cognitive impairment, n=58. *Normative scores were truncated at 40. Each value represents the percentage of subjects in that score range.*
**HOW? CNS Vital Signs begins with...**

**A:** Conduct Neurocognitive Testing Procedure

1. Is the Validity Indicator (VI) suggestive of an invalid test?
2. Is the Pattern suggestive of a condition or pathology?

**B:** Evaluate Neurocognitive Testing Results

1. Evaluate Effort
2. Evaluate Pattern
3. Evaluate Severity

**C:** Re-test Neurocognitive Testing Procedure

1. Are the Scores suggestive of a deficit or impairment?

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**A:** Conducting a Valid Assessment (Refer to the Test Administration Guide.) To begin the staff should collect information about the CHIEF or REFERRAL COMPLAINT. This will be a primary driver for the selection of tests and rating scales. For initial evaluations or in complex presentations, a broad spectrum battery is always an appropriate starting point.

**B:** Review the immediately auto-scored report to

1. validate testing effort,
2. evaluate the Domain Dashboard to quickly assess the level of impairment or grade the deficit, and
3. Evaluate the Domain Pattern to help rule-in, rule-out, or confirm certain clinical conditions. Feedback to the patient on the testing results may be presented at the clinical encounter or at a subsequent patient visit.

**C:** If invalid test results were noted then consider re-testing the patient to confirm clinical results. If the test results were valid, then, as part a continuum of care, reschedule testing to track disease progression and measure ongoing status or outcomes.

**NOTE:** The Validity Indicator denotes a guideline for representing the possibility of an invalid test or domain score. “No” means a clinician should evaluate whether or not the test subject understood the test, put forth their best effort, or has a clinical condition requiring further evaluation.
Evaluate Severity – Impairment Status

CNS Vital Signs grades severity of impairment based on an age-matched normative comparison database... mTBI Example

Psychometric and Normative Comparison

CNS Vital Signs Clinical Report
Test Date: July 23 2011 10:46:38
Subject ID: mTBI or AD/HD
Administrator: Technician
Language: English (United States)
Age: 27

Domain Scores | Subject Score | Standard Score | Percentile | VI** |
--- | --- | --- | --- | --- |
Neurocognition Index (NCI) | 80 | 103 | 50 | Yes |
Composite Memory | 51 | 103 | 50 | Yes |
Verbal Memory | 51 | 103 | 50 | Yes |
Visual Memory | 51 | 103 | 50 | Yes |
Processing Speed | 48 | 70 | 50 | Yes |
Executive Function | 24 | 70 | 50 | Yes |
Psychomotor Speed | 54 | 70 | 50 | Yes |
Reaction Time | 555 | 107 | 50 | Yes |
Stroop Attention | 31 | 55 | 50 | Yes |
Cognitive flexibility | 26 | 63 | 50 | Yes |

Total Test Time (min. sec): 29:12

Domain Dashboard: Above average domain scores indicate a standard score greater than 109 or a Percentile Rank (PR) greater than 74, indicating a high functioning test subject. Average is a SS 90-109 or PR 75-79, indicating normal functioning. Low Average is a SS 80-89 or PR 70-74, indicating a slight deficit or impairment. Below Average is a SS 70-79 or PR 70-74, indicating a moderate level of deficit or impairment. Very Low is a SS less than 70 or a PR less than 70, indicating a deficit and impairment. Reaction times are in milliseconds. An * denotes that “lower is better,” otherwise higher scores are better. Subject Scores are raw scores/percentiles generated from data values of the individual subjects.

VI** - Validity Indicator: Denotes a guideline for representing the possibility of an invalid test or domain score. “No” means a decision should evaluate whether or not the test subject understood the test, put forth their best effort, or has a clinical condition requiring further evaluation.

Psychometric and Normative Comparison

Standard Deviations

Per centiles |
--- |
1 | 5 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 95 | 99 |

Standard Scores

Z Scores

T Scores

Standard Scores

Above: | > 110 | High Function and High Capacity |
Average: | 90-110 | Normal Function and Normal Capacity |
Low Average: | 80-90 | Slight Deficit and Slight Impairment |
Low: | 70-79 | Moderate Deficit and Impairment Possible |
Very Low: | < 70 | Deficit and Impairment Likely |
Neurocognitive Domain Dashboard

CNS Vital Signs presents testing results in Subject (raw), Standard Scores, and Percentile Ranks. **NOTE:** See the CNS Vital Signs Interpretation Guide for more information.

### Patient Profile:

<table>
<thead>
<tr>
<th>Domain Scores</th>
<th>Percentile Range</th>
<th>Standard Score Range</th>
<th>&gt; 74</th>
<th>25 - 74</th>
<th>9 - 24</th>
<th>2 - 8</th>
<th>&lt; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurocognition Index (NCI)</td>
<td>Subject Score</td>
<td>Standard Score</td>
<td>Percentile</td>
<td>VI**</td>
<td>Above</td>
<td>Average</td>
<td>Low Average</td>
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<tr>
<td>Composite Memory</td>
<td>102</td>
<td>103</td>
<td>58</td>
<td>Yes</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal Memory</td>
<td>51</td>
<td>93</td>
<td>32</td>
<td>Yes</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Visual Memory</td>
<td>51</td>
<td>110</td>
<td>75</td>
<td>Yes</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Processing Speed</td>
<td>48</td>
<td>79</td>
<td>8</td>
<td>Yes</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Executive Function</td>
<td>34</td>
<td>75</td>
<td>5</td>
<td>Yes</td>
<td>x</td>
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<tr>
<td>Psychomotor Speed</td>
<td>174</td>
<td>93</td>
<td>32</td>
<td>Yes</td>
<td>x</td>
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<td></td>
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<tr>
<td>Reaction Time*</td>
<td>555</td>
<td>107</td>
<td>68</td>
<td>Yes</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Complex Attention*</td>
<td>21</td>
<td>56</td>
<td>1</td>
<td>Yes</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Cognitive Flexibility</td>
<td>26</td>
<td>63</td>
<td>1</td>
<td>Yes</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Total Test Time (min: secs)</td>
<td>29:12</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**SD** = Standard Deviation from the MEAN
HOW can CNS Vital Signs Benefit My Practice?
Ask about our NO COST Practice Evaluation!

CNS Vital Signs Benefits

- Enhanced Patient Insight and Care Management
- Enables Evidence-Based Medicine and Outcomes
- Improved Practice Efficiencies and Documentation
- Improved Practice Revenues and Performance

Potential Return On Investment
Based on Established Billing Codes*

40 Patient Test Sessions ROI:
$2,400 to $10,000+
Possible Yearly IMPACT... $80K to $160K depending on patient volumes...

*Based on a survey of Payers. Contact support@cnvs.com for billing information.

CNS Vital Signs
Mobile Test Station
ULTRA Series

Solution Example

Popular with Clinics and Hospitals: Engineered with BUSY PRACTICES in mind (roll into exam rooms), the Ultra Series combines the ultimate in practical functionality, ergonomic ease-of-use, and remarkable durability.

$1,400.00
Testing Station with 40 test sessions.

$1,400.00
Testing Station with 40 test sessions.
**NEXT STEPS:**

**Contact Us…**

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**Getting Started**

**Step One:** Register at [www.CNSVS.com](http://www.CNSVS.com)

After registering download the VSX ‘Brief-Core” Assessment Software with 5 FREE Test Sessions… Take it for a test drive.

**Step Two:** Schedule a FREE One-on-One In-Service Webinar… Contact CNS Vital Signs Support [support@cnsvs.com](mailto:support@cnsvs.com) with dates and times that you will be available.

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**Learn More**

Contact me to receive report examples, case studies, administration guides etc.

- Website: [www.CNSVS.com](http://www.CNSVS.com)
- Phone: 888.750.6941
- Email: [support@cnsvs.com](mailto:support@cnsvs.com)
- Address: 598 Airport Blvd. Suite 1400 Morrisville, NC 27560

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“The webinar training was terrific… it covered the Validity & Reliability of the platform, the interpretation of results, billing and coding, testing protocol, and the integration of the CNS Vital Signs platform into our practice.”  

*Practice Administrator*