

# Clinician Portal: Enabling a Continuity of Concussion Care



Concussion  
**Vital Signs**<sup>®</sup>

[www.CONCUSSIONVITALSIGNS.com](http://www.CONCUSSIONVITALSIGNS.com)

# Clinician Portal: Enabling a Continuity of Concussion CARE

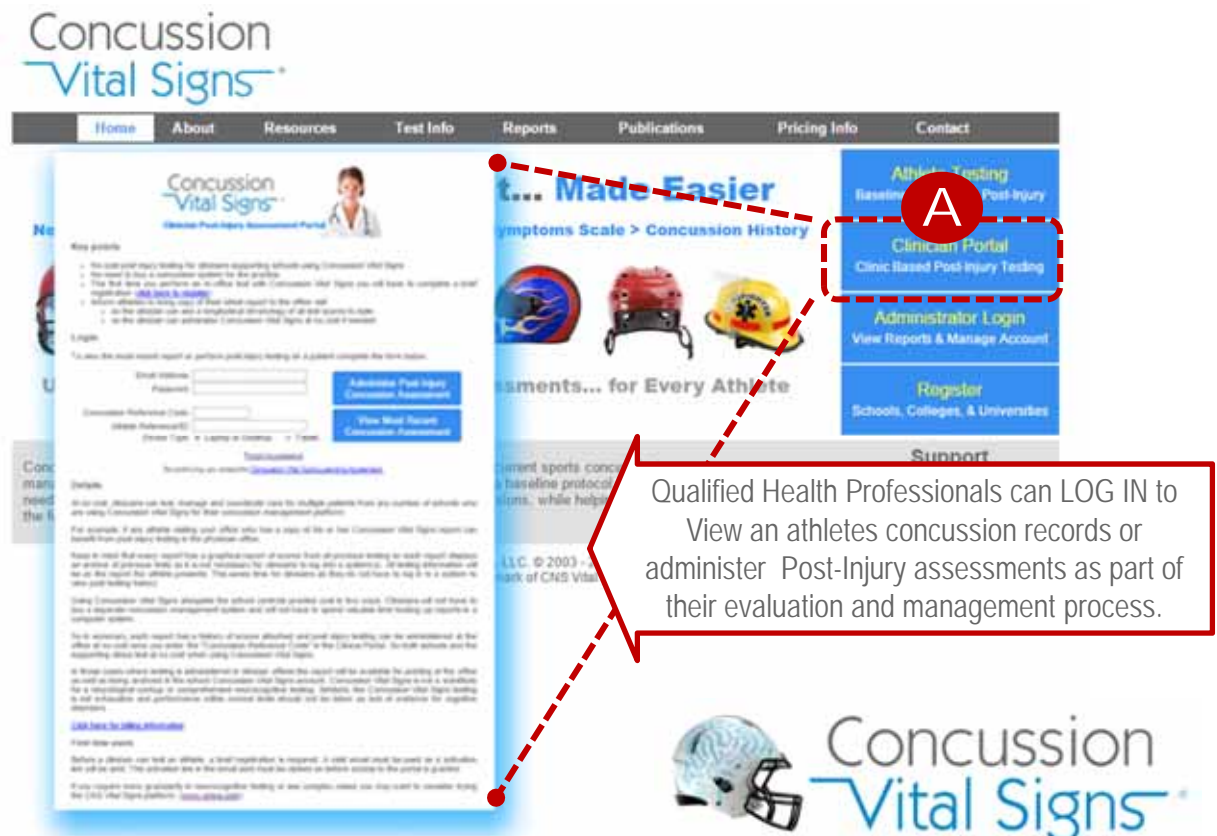
## The Clinician Portal advances sports concussion care by enabling a seamless continuity of CARE between the athlete and their desired clinician.

Schools and school systems can now better serve their athletes and parents. The CLINICIAN PORTAL allows athletes and parents to take their Concussion Vital Signs reports to any qualified health care professional whereby the provider can enter information from the report and obtain the concussion history for the athlete real-time.

### The Clinician Portal will:

- Allow any qualified healthcare professional to easily access the available set of tests, scales and questionnaire records from Concussion Vital Signs, as well as administer a post-injury assessment if a post-injury assessment is warranted.
- Allow athletes the option of taking their Concussion Vital Signs records to their personal healthcare or alternatively, to the provider of record for the school.
- Allow sports medicine clinics, concussion clinics, neuropsychology clinics, and other healthcare institutions, to quickly, gather concussion history. Such a flexible robust system allows management and coordination of multiple patients from any number of schools or entities using Concussion Vital Signs for their concussion management platform.
- The CLINICIAN PORTAL supports clinical professionals and Concussion Vital Signs users by providing a better coordinated concussion management system.

Collaboration between athletes, parents and clinicians is vital for effective concussion management. (A) **CLICK the Clinician Portal Button**



The screenshot shows the Concussion Vital Signs website interface. At the top, there is a navigation menu with links for Home, About, Resources, Test Info, Reports, Publications, Pricing Info, and Contact. The main content area features a header with the logo and a navigation bar with buttons for Athlete Testing, Clinician Portal, Administrator Login, and Register. The Clinician Portal button is highlighted with a red circle and the letter 'A'. A red dashed line points from this button to a callout box containing the following text:

Qualified Health Professionals can LOG IN to View an athletes concussion records or administer Post-Injury assessments as part of their evaluation and management process.

At the bottom of the page, there is a logo for Concussion Vital Signs featuring a brain and a helmet.

# Using the Clinician Portal:

Concussion Vital Signs Baseline Report	
Athlete Reference ID: <b>athletetest</b>	Test Date Local: September 17, 2014 15:39:55
Full Name: John Doe	Age: 18
Administrator: Athlete Assessment	Language: English (United States)
Total Test Time: 31:12 (min:secs) for all tests in this report	Test Date GMT: September 17, 2014 22:39:55
Testing Supervision: Supervised by athletic trainer or school personnel	Testing Environment: Group 16 or More
Concussion Reference Code: <b>2T47GERB</b> Used to view the most recent report or administer post-injury assessment at <a href="http://www.concussionvitalsigns.com">www.concussionvitalsigns.com</a>	

## Clinician Post-Injury Assessment Portal

### Key points

- No cost post injury testing for clinicians supporting schools using Concussion Vital Signs
- No need to buy a concussion system for the practice.
- The first time you perform an in-office test with Concussion Vital Signs you will have registration ([click here to register](#))
- Inform athletes to bring copy of their report to the office visit so the clinician can see a longitudinal chronology of all test scores to date.
- the clinician can administer Concussion Vital Signs at no cost if needed.

### Login

To view the most recent report or perform post-injury testing on a patient complete the form below.

Email Address:

Password:

Concussion Reference Code:

Athlete Reference ID:

Device Type:  Laptop or Desktop  Tablet

[Forgot my password](#)

By continuing, you accept the [Concussion Vital Signs Licensing Agreement](#).

**A. ACCESS ATHLETE RECORDS:** Clinicians can view account records by using the two reference codes below on the Concussion Vital Signs Report.

**B. REGISTER TO VIEW ATHLETE TEST RESULTS and do POST-INJURY TESTING:** Clinicians can view test results by REGISTERING and logging into the athletes account.

### Details

At no cost, clinicians can test, manage and coordinate care for multiple patients from any number of schools and are using Concussion Vital Signs for their concussion management platform.

For each athlete, a report is generated so each clinician can view the results.

Keep an eye on the athlete's progress so each clinician can view the results.

Using the Concussion Vital Signs platform, clinicians can view the results of each test.

Athlete ID	Full Name	Test Time (local)	Type	Assessments	Compl	Valid
SportConcussion		2009-02-06 13:10:46	Post-Injury	V57	Y	Y
SportConcussion		2009-01-05 14:43:28	Post-Injury	V57	Y	Y
SportConcussion		2008-08-29 13:23:10	Baseline	V57	Y	Y

So in summary, each report has a history of scores attached and post injury testing can be administered at the office or at the athlete's home.

The page at <https://dev.cnsvs.com> says: "You understand and agree to be invoiced \$15.00 US to administer this post-injury assessment."

Clicking on the "Administer Post-Injury Concussion Assessment" button will bring up a registration form for printing at the office. Concussion Vital Signs is not a substitute for a physical examination.

[Click here for billing information](#)

### First time users

Before a clinician can test an athlete, a brief registration is required. A valid email must be provided and a link will be sent. The activation link in the email sent must be clicked on before access to the platform.

If you require more granularity in neurocognitive testing or see complex cases you may wish to use the CNS Vital Signs platform. ([www.cnsvs.com](http://www.cnsvs.com)).

**B**

Concussion Vital Signs  
Clinician Post-Injury Assessment Portal

Registration

Personal information is visible to all services

First Name:

Last Name:

Phone Number:

Address:

City:

State:

Country:

Zip Code:

Gender:

Age:

Registration

By continuing, you accept the [Concussion Vital Signs Licensing Agreement](#).

**C. VIEW ATHLETE TEST RESULTS** Clinicians can view test results.

**D. DO POST-INJURY TESTING:** Clinicians can CLICK and Administer Post-Injury Assessments.

## Do Your Best! Administration Instructions

### 1. SPEED and ACCURACY

*You will be measured based on the speed and accuracy of your responses. This is not an IQ test, it is a measure of your brain function performance.*

### 2. FOLLOW INSTRUCTIONS

*Carefully follow the instructions. Failure to understand the instructions can produce an invalid test score requiring a retake.*

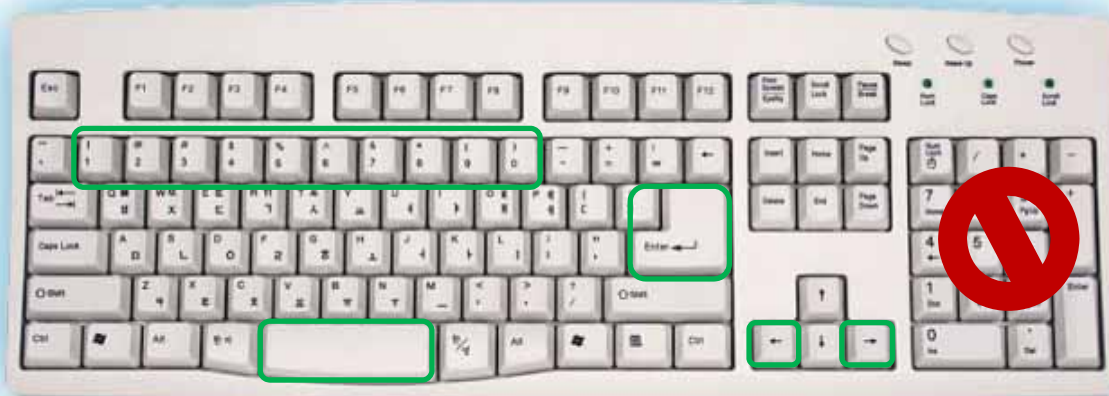
### 3. TURN OFF CELL PHONE

*Turn off and put away all electronic devices. It is important for you to focus on giving your best effort.*

### 4. COMFORTABLE?

*Do you need to use the facilities? Do you have a headache, hand injury? Do you wear glasses? Are you dizzy, drowsy / sleepy?*

## How to Record your Responses



- **ENTER** key, to start and advance each test or rating scale
- **SPACE BAR** as the primary response key for most of the tests
- **ARROW KEYS** used for the Shifting Attention Test
- **NUMBER ROW** keys for other tests and the medical rating scales (*The keypad is disabled*)

# Neurocognitive Report Information Backgrounder

There are two types of Concussion Vital Signs neurocognitive testing reports depending on the test administered. One of course, is the Baseline report. The second is the Post Injury report. Concussion Vital Signs reports are scored from seven venerable computerized neuropsychological tests measuring the speed and accuracy of an athlete’s neurocognitive performance.

**Each neurocognitive testing report, both Baseline and Post Injury, presents the testing results as:**

**‘Subject Scores’** or raw scores computed from raw score calculations using the data values of individual subtests and are simply the number of correct responses, incorrect responses, and reaction times.

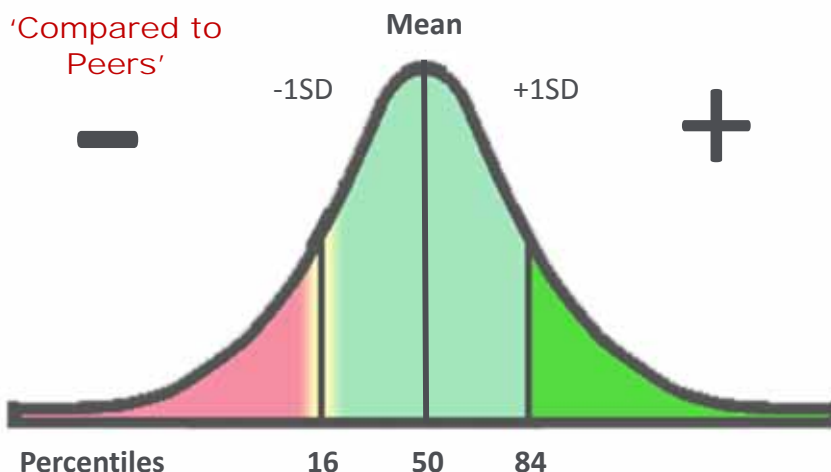
**‘Compared to Peers’** or an index of how the athlete scored compared to other subjects (NORMATIVE) of the same age. The ‘Compared to Peers’ is based on percentiles rank and should be interpreted in conjunction with Subject Scores. Percentiles Scores may help by suggesting an improvement or decline from baseline to post-injury, but, this can only be confirmed by comparing the Subject Scores.

**‘Valid Score’** is a computed measure of an athletes likely testing effort. Testing results on all neuropsychological tests (computerized and paper & pencil) like Concussion Vital Signs can be considered invalid if the testing subject does not put forth good effort during the testing process. Testing subjects may also misunderstand or not read the instructions and score abnormally low on a particular test. If a testing subject tests abnormally low (NO on the Valid Score) then that would be a reason for retesting the individual. If they again score low (NO on the Valid Score) with what you perceive as the subject putting forth a good effort then you should refer the subject for further clinical evaluation (this is rare). The test proctor should reinforce the need for the athlete to give a good testing effort and use the VALID SCORE (embedded indicators of effort) as a tool to help with the reinforcement. *NOTE: To learn more about the Valid Score calculations go to the FAQ section of the Concussion Vital Signs website.*

The Post-Injury report first page will display the Baseline scores along with current Post-Injury scores as well as whether or not current Post-Injury scores for the athlete returned to baseline, or within 5% of baseline.

The second page of the Post Injury report will produce graphs of all scores to date such that you have a longitudinal view of the testing performance, for all testing to date. For clinician, the report can be printed if needed as part of a patient chart and the PDF format typically can be uploaded to EMRs.

In addition, a Concussion Symptom Severity Scale and a Concussion History are reported when completed as part of the testing protocol.



Neurocognitive – Neuropsychological Resources

<b>Above Average:</b>	<b>&gt; 84</b>	<b>High Function and High Capacity</b>
<b>Average:</b>	<b>16 - 84</b>	<b>Low Average to Normal Function</b>
<b>Below Average:</b>	<b>&lt; 16</b>	<b>Slight Deficit to Impairment Likely</b>

# Neurocognitive Report Evaluation Backgrounder

## Evaluating the Baseline Report

*Check that all test domains are valid.* Test validity can be found in the column labeled 'Validity Score'. If there is a "NO" listed for any of the domains, it is suggested the test be re-administered until the athlete scores valid scores on all domains.

Note that Concussion Vital Signs is a subset of the clinical battery CNS Vital Signs and as such may identify athletes with a cognitive deficit. Athletes with extremely low scores that cannot improve upon retest may need to see a qualified healthcare provider for a more comprehensive workup. Low scores will be described in the "Compared to Peers" column on the report.

There are three possible groups in the Compared to Peers column, Below Average, Average and Above Average. Athletes scoring Above Average are scoring greater than one standard deviation higher than their student peers. Athletes scoring Below Average are score less than one standard deviation than their student peers. Average score fall between Above Average and Below Average. About 2/3 of students peers will score Average.

Repeat baseline testing is encouraged if it is felt the athlete did not do their best or if the scores seem much lower than expected.

## Evaluating the Post-Injury Report.

The athlete might be experiencing a deficit such that they are unable to register a valid score. This may be of clinical significance and if the athlete cannot score valid tests a referral to a qualified healthcare provider for a more comprehensive workup should be considered.

Check that the athlete has returned to "At Baseline or Better" and act accordingly per your concussion monitoring protocol. If an athlete is unable to return to baseline a referral to a qualified healthcare provider for a more comprehensive workup should be considered.

Concussion Vital Signs is not a substitute for a neurological workup or comprehensive neurocognitive testing. Similarly, the Concussion Vital Signs testing is not exhaustive and performance within normal limits should not be taken as lack of evidence for cognitive disorders.

## Clinician Portal: Enabling Coordinated Care with Qualified Health Professionals

It is important to understand that the report displays a '**Concussion Reference Code**' allowing clinicians assisting post-injury evaluation decisions to better access an athletes test reports and administer an in-office post-injury test at no cost.

To access just CLICK the Clinical Portal button on the right-handed side of the Concussion Vital Signs homepage. In those cases where testing is administered in clinician offices the report will be available for printing at the office as well as being archived in the school Concussion Vital Signs account.

# Neurocognitive Report Evaluation Backgrounder

## Concussion Vital Signs Neurocognitive Domain Dashboard BASELINE Example:

Concussion Vital Signs Baseline Report	
Athlete Reference/ID: athletestest	Test Date Local: September 17, 2014 15:39:55
Full Name: John Doe	Age: 18
Administrator: Athlete Assessment	Language: English (United States)
Total Test Time: 31:12 (min:secs) for all tests in this report	Test Date GMT: September 17, 2014 22:39:55
Testing Supervision: Supervised by athletic trainer or school personnel	Testing Environment: Group 16 or More
Concussion Reference Code: 2T47GERB Used to view the most recent report or administer post-injury assessment at <a href="http://www.concussionvitalsigns.com">www.concussionvitalsigns.com</a>	

Domain Scores	①	Baseline	③
	Subject Score	Compared to Peers	Valid Score
<b>Neurocognitive Index (NCI)</b>		Average	Yes
Verbal Memory	51	Average	Yes
Visual Memory	52	Average	Yes
Psychomotor Speed	190	Average	Yes
Executive Function	43	Average	Yes
Cognitive Flexibility	40	Average	Yes
CPT Correct Responses	40	Average	Yes
Reaction Time*	538*	Above	Yes
<b>Reaction Time Detail</b>			
Simple Reaction Time*	284*	Average	Yes
Choice Reaction Time Correct*	432*	Average	Yes
Shifting Attention Correct RT*	856*	Average	Yes

The Concussion Vital Signs BASELINE Report presents testing results in

- ① **Subject (raw) Scores**
- ② **Compared to Peers** Results can be used to evaluate or monitor an athlete's condition.
- ③ **Valid Score** results help clinicians know if the athlete gave an acceptable effort during testing.

## Neurocognitive Domain Dashboard Post-Injury Example:

Concussion Vital Signs Post-Injury Report	
Athlete Reference/ID: athletestest	Test Date Local: October 8, 2014 12:30:45
Full Name: John Doe	Age: 18
Administrator: Head ATC	Language: English (United States)
Total Test Time: 23:01 (min:secs) for all tests in this report	Test Date GMT: October 8, 2014 19:30:45
Testing Supervision: Supervised by athletic trainer or school personnel	Testing Environment: Alone
Concussion Reference Code: 2T47GERB Used to view the most recent report or administer post-injury assessment at <a href="http://www.concussionvitalsigns.com">www.concussionvitalsigns.com</a>	

Domain Scores	Baseline (Oct 7, 2014)			Post Injury				
	Subject Score	Compared to Peers	Valid Score	Subject Score	Compared to Peers	Valid Score	At Baseline or Better	Within 5% of Baseline
<b>Neurocognitive Index (NCI)</b>		Average	Yes		Average	Yes	Yes	Yes
② Verbal Memory	51	Average	Yes	49	Below	Yes	No	Yes
Visual Memory	52	Average	Yes	48	Average	Yes	No	Yes
Psychomotor Speed	190	Average	Yes	192	Average	Yes	No	Yes
Executive Function	43	Average	Yes	59	Above	Yes	Yes	Yes
Cognitive Flexibility	40	Average	Yes	56	Average	Yes	Yes	Yes
CPT Correct Responses	40	Average	Yes	40	Average	Yes	Yes	Yes
Reaction Time*	538*	Above	Yes	514*	Above	Yes	Yes	Yes
<b>Reaction Time Detail</b>								
Simple Reaction Time*	284*	Average	Yes	252*	Average	Yes	Yes	Yes
Choice Reaction Time Correct*	432*	Average	Yes	420*	Average	Yes	Yes	Yes
Shifting Attention Correct RT*	856*	Average	Yes	617	Above	Yes	Yes	Yes

Notice in the example above that the athlete (1) had many average scores at his/her baseline, (2) the verbal and visual memory scores are still slightly impaired post-injury as compared to baseline, and (3) most of the scores have returned to baseline. **A qualified health professional would refer to other clinical endpoints (symptom resolution, balance testing, neurological exam, etc.) before concluding that the athlete is able to return-to-play.**

# Neurocognitive Report Evaluation Backgrounder

## Longitudinal Post-Injury Report Example:

Each Concussion Vital Signs Report presents the POST-INJURY results in a graphic format that provides clinicians with a longitudinal view. **To enable a longitudinal view of the athlete's condition, the ATHLETE REFERENCE/ID must remain consistent across all their testing (Baseline and Post-Injury). The entire test must be re-administered if the athlete has any "No" values in the Valid Score column.**

**NOTE:** Athletes suffering from a concussion may display low scores or deficits in different domains depending on the direction and force of the blow to the head. Not all athletes that suffer from a concussion provide clear demonstration of neurocognitive deficits. Concussion Vital Signs does not assess the cause of changes in cognitive performance. Testing results should be interpreted by a qualified health professional. **Remember, it is better to be safe. Any athlete suspected of having a concussion should be removed from play, and then seek medical evaluation. Consult a doctor after a suspected concussion. Medical clearance should be given before return-to-play.**

