

IF YOU VISIT YOUR DOCTOR REGARDING CONCUSSION SYMPTOMS, TAKE THIS ENTIRE REPORT/DOCUMENT TO THE DOCTOR

How to Interpret This Report

There are four components to this report.

The listing of Domain Scores in the first column. These domain names listed in the first column describe specific cognition tests/domains given as part of this baseline testing.

The Subject Score in the second column displays the score attained for each of the tests. These scores are a numeric frame of reference for post injury testing should a post injury test be necessary.

A third column compares how the athlete scores “Compared to Peers”, (peers are individuals of roughly the same age.). There are 3 possible values for this field, Low, Average and High. About 2/3 of athletes will score Average.

Valid Score is listed in the last column and describes whether the score is valid or not. If the score is not valid, that typically means the test taker did not read or understand the directions or was not putting forth their best effort.

Should your child be injured and have to take a post injury test at a providers office, you will need to take a copy of this report with you. If you have a copy of this report with you the provider can administer a post injury test at no cost for the testing portion of the visit and receive the post injury report immediately. The test they take post injury will be very similar to the baseline test. The post injury test will be compared to this baseline test to assess whether your child has performed as well on their post injury test as they did on their baseline. Typically, athletes are not cleared for play unless their post injury test is equal to or better than their baseline test. Also it is important to understand that sometimes an athlete may score better on the post injury test than the baseline test even when a concussion has been suffered. If you suspect a concussion or other injury, you should see a physician.

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What to do next if you suspect your child has experienced a possible concussion or mild traumatic brain injury

It is not always easy to know or recognized if someone has suffered a concussion or a mild traumatic brain injury. You do not have to lose consciousness to have a concussion injury.

If you notice any symptoms of a concussion or are in doubt about whether your child may be injured, contact your doctor. Concussion symptoms can range from mild to severe and last for a few hours or in other cases up to several months..

Symptoms can vary and here are just a few common examples:

-Cognitive problems such as an inability to concentrate or remember. Some patients complain of being slower or not thinking clearly.

-Mood problems such as being overly angry, anxious (nervous), sad or depressed.

-Concussions sometimes contribute to not being able to sleep or sleeping more or less than usual.

-There are many potential physical symptoms which are easier to recognize such as a headache or dizziness that will not subside as well as nausea and vomiting. Some will be sensitive to light and sound or have blurred vision and balance problems or just a general feeling of malaise or lack of energy.

If you observe or suspect any of these symptoms contact your doctor immediately.

If you take this report with you to the doctor, they will be able to gather information from the header of this report and log into the Clinician Portal associated with Concussion Vital Signs and administer a Post Injury Test at no cost to your child. (The provider may charge their fee but the actual Concussion Vital Signs test session is free as part of the Cognitive Assessment Test). This will allow the doctor to compare your child's post injury cognitive state to the baseline state and note whether the child scores a cognitive deficit on the test compared to the baseline. If the child scores worse on the Post Injury Test further workup or care by your doctor may be needed. Also note that a Post Injury score better than the baseline score does not mean a concussion was not suffered. Your doctor will be able to take the test results and other clinical information obtained during the workup and decide on appropriate care.

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POST INJURY TESTING INFORMATION FOR PROVIDERS

As part of a continuum of care for patients who have been baseline tested with the computerized, cognitive testing battery Concussion Vital Signs, in-office Post Injury Testing is available at no cost to providers performing concussion management. Clinicians can test these patients via the Concussion Vital Sign website.

Any athlete visiting your office will need to present a copy of their baseline report or a copy of one of his or her Concussion Vital Signs reports. With the information contained in the header of the report, providers can either:

- Review their most recent tests
- Perform a post injury test session in the office

Keep in mind that every post injury report will also display a longitudinal graph of scores from all previous testing so each report displays historical scores of previous testing. Using the "Concussion Reference Code" in the Clinician Portal section of the www.concussionvitalsigns.com website, will allow you to access information or initiate testing. The "Concussion Reference Code" is unique to the athlete. Should you decide to administer a test in your office, the report should be either printed or downloaded immediately post-test.

Concussion Vital Signs is not a substitute for a neurological workup or comprehensive neurocognitive testing. It allows comparison of a Post Injury Test to a Baseline Test. Similarly, Concussion Vital Signs testing is not exhaustive and performance within normal limits should not be taken as lack of evidence for a concussion or other cognitive deficit.

As such, Concussion Vital Signs testing alone is not evidence for returning to play. Clinicians should perform a comprehensive exam as needed. It is important to understand and to be aware that a patient who does not do their best on the baseline test may score higher on a post injury test and this can be a spurious result in a case where the patient can be impaired.

Typical CPT codes for neurocognitive testing are 96118 and/or 96120.

**FOR PROVIDERS NEEDING TO DO POST INJURY TESTING GO TO:
WWW.CONCUSSIONVITALSIGNS.COM AND SELECT THE CLINICIAN PORTAL OPTION**

If you require more granularity in neurocognitive testing or see complex cases you may want to consider the CNS Vital Signs platform. (www.cnsvs.com)

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Concussion Vital Signs Baseline Report

Athlete Reference/ID: athletetest	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 www.concussionvitalsigns.com	

Domain Scores	Baseline		
	Subject Score	Compared to Peers	Valid Score
Neurocognitive Index (NCI)		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
Reaction Time Detail			
Simple Reaction Time*	284*	Average	Yes
Choice Reaction Time Correct*	432*	Average	Yes
Shifting Attention Correct RT*	856*	Average	Yes

The entire test must be re-administered if the athlete has any "No" values in the Valid Score Column. An * denotes that "lower is better" in the Subject Score column, otherwise higher scores are better. With Percentile scores, higher is always better.

All tests are valid.

Domain Scores are defined as follows:

Verbal and Visual Memory is the score for the Verbal and Visual Memory Tests respectively.

Psychomotor Speed is the combined score for both the Finger Tapping and the Symbol Digit Coding Test.

Executive Function reflects performance on the Shifting Attention Test.

Cognitive Flexibility reflects performance on components of the Shifting Attention and Stroop Tests.

CPT Correct Responses is the number of correct responses on the Continuous Performance Test.

Reaction Time* is the average reaction time on parts 2 and 3 of the Stroop Tests.

Reaction Time Detail Scores are defined as follows:

Simple Reaction Time* is the average reaction time on part 1 of the Stroop Tests. Time required to press the spacebar from the time a word first appears on the display.

Choice Reaction Time Correct* is the average correct reaction time on the Continuous Performance Test. Time required to press the spacebar from the time a B first appears on the display.

Shifting Attention Correct RT* is the average correct reaction time on the Shifting Attention Test.

There are seven tests in the battery:

Verbal Memory Test - a 15 word memory test where the athlete will respond with the spacebar if they have seen one of the words before when challenged with another word list. This is a measure of memory.

Visual Memory Test - a 15 image memory test where the athlete will respond with the spacebar if they have seen one of the images before when challenged with another image list. This is a measure of memory.

Finger Tapping Test - the athlete will tap the spacebar as many times as possible in 10 second. There will be three trials with each hand. This is a measure of psychomotor speed.

Symbol Digit Coding Test - the athlete will complete a grid where an answer key is presented and using the numbers from the key, match a number with a shape in the grid. The number keys across the top of the keyboard will be used to respond. This is a measure of psychomotor speed.

Stroop Test - the athlete will respond to colors and words in three different subtests. This is a measure of reaction time, simple reaction time, complex reaction time and cognitive flexibility.

Shifting Attention Test - the athlete will respond to changing rules (Match Color or Match Shape) by responding with the two arrow keys. This is a measure of Shifting Attention Reaction Time, Executive Function and Cognitive Flexibility

Continuous Performance Test - the athlete will respond with the spacebar each time they see a letter "B" on the screen. This is a measure of choice reaction time and CPT Correct Responses.