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CONCUSSION in SPORT

Education Package for

Doctors

AXON COGSTATE





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The Axon Sports Computerized Cognitive Assessment Tool (CCAT)

- 8-10 minute neurocognitive online test that helps qualified Medical providers manage return-to-play decisions after an Athlete has sustained a concussion.
- The test measures multiple cognitive areas that are especially sensitive to concussions, including attention, processing speed, working memory, and learning.
- An initial "Baseline" test is taken before a concussion occurs -- typically in the preseason.
- The test is repeated after a head injury.
- The combination of the Baseline and After Injury test scores provides valuable information to the Medical Provider who is managing the Athlete's care and the return-to-play decision, reducing the risk of additional injury become complete recovery.



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When you are ready to begin the Practice Test,
please click on the Enter button to start.

The Practice Test is a shorter version of the actual test.

There will be a series of four tasks.

When taking the test, it is important to remember that you should be
in a quiet room and free from distractions.

Please be sure you have the volume on your computer turned up to hear the sound
indicators.

Enter

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Practice pressing NO and YES

NO

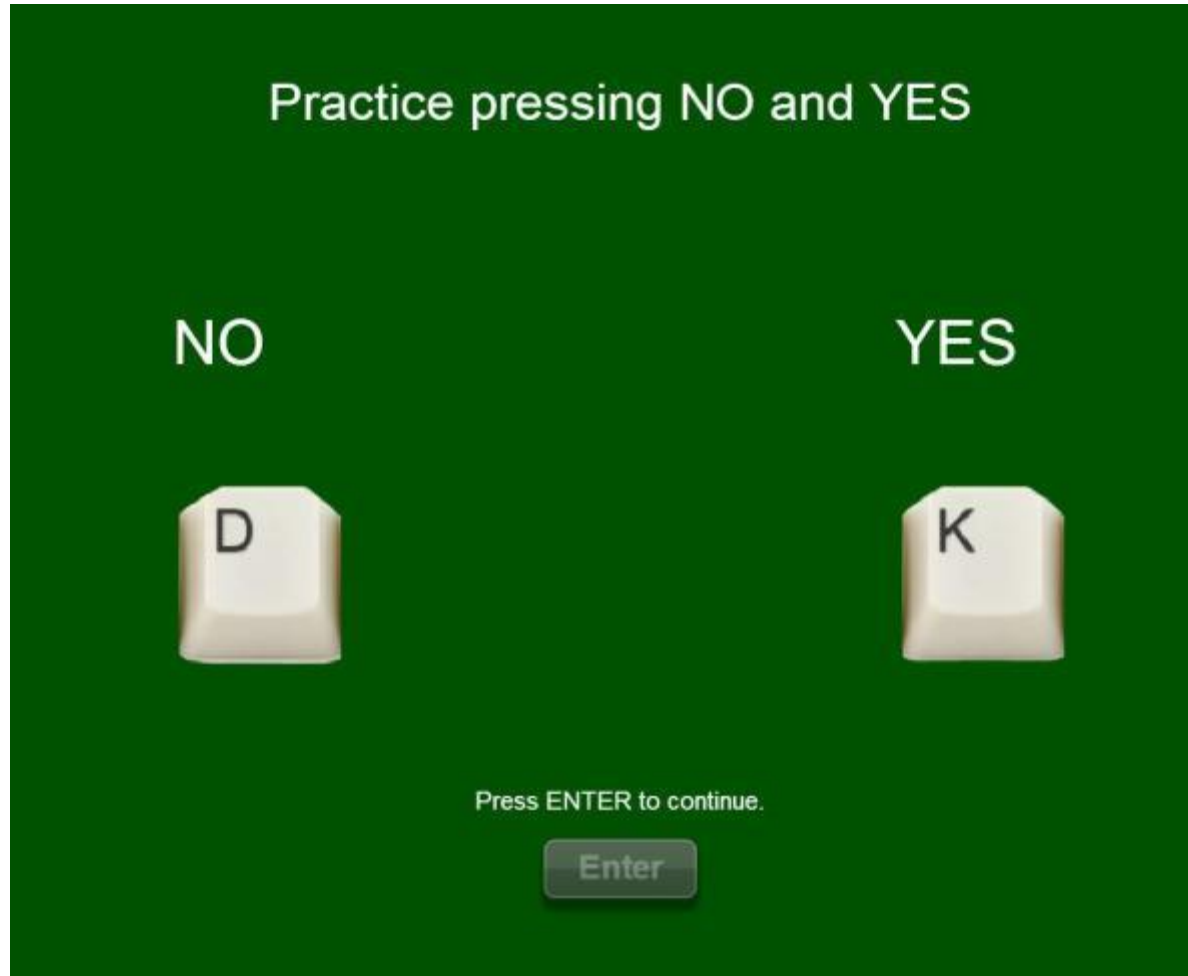
YES

D

K

Press ENTER to continue.

Enter



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Processing Speed Task

HAS THE CARD TURNED OVER?

You will only need to use YES (K key) for this task.

The task begins when the playing card turns face up.
Press YES (K key) when the card turns face up.

Try to respond as fast as possible after each card turns face up.
If you respond before a card turns face up, you will hear an error sound.

Press ENTER to begin.



Enter



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Attention Task

IS THE CARD RED?

You will need to use both **NO (D key)** and **YES (K key)** for this task.

As soon as the playing card turns face up you must decide if the color of the card is **RED**?
If it is **RED**, press **YES (K key)**.
If it is not **RED**, press **NO (D key)**.

Try to make your responses as accurate and fast as possible after each card turns face up.

If you answer incorrectly or too soon, you will hear an error sound.

Press **ENTER** to begin.

Enter



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Learning Task

HAVE YOU SEEN THIS CARD BEFORE?

You will need to use both NO (D key) and YES (K key) for this task.

As soon as the playing card turns face up you need to make a decision:

If you HAVE seen the card before in this task, press YES (K key).

If you HAVE NOT seen the card before in this task, press NO (D key).

Try to make your responses as accurate and fast as possible
after each card turns face up.

If you answer incorrectly or too soon, you will hear an error sound.

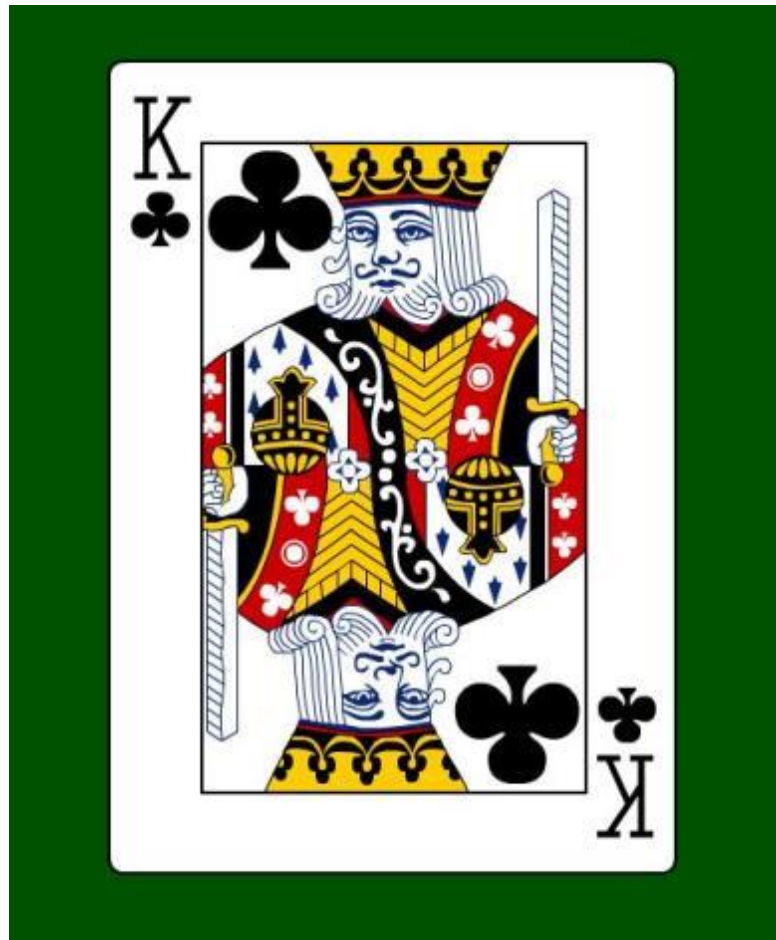
**BECAUSE THERE IS NO PRIOR CARD TO COMPARE TO THE FIRST CARD, THE
CORRECT RESPONSE FOR THE FIRST CARD IS NO (D key).**

Press ENTER to begin.

Enter

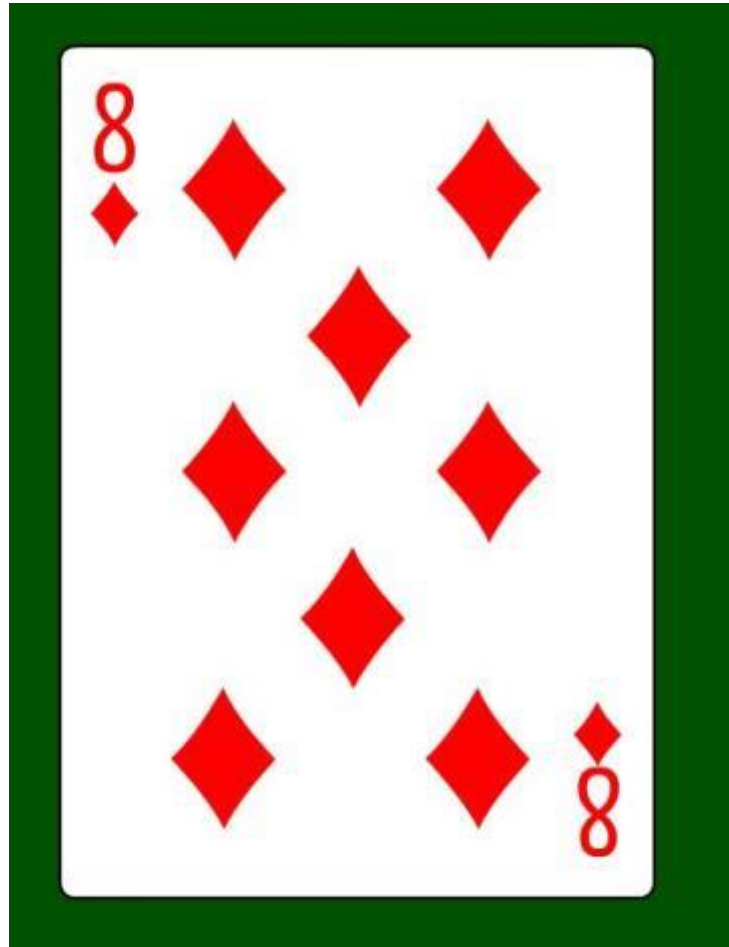


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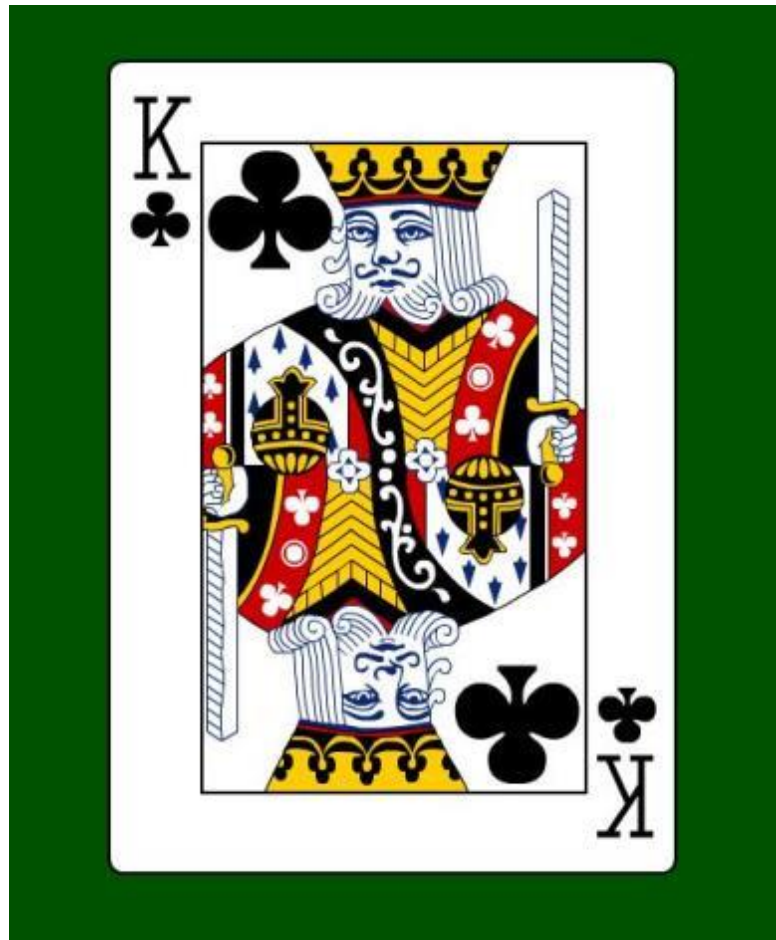


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Working Memory Task

IS THE PREVIOUS CARD THE SAME?

You will need to use both NO (D key) and the YES (K key) for this task.
As soon as the playing card turns face up you must decide
if the card is EXACTLY the same as the previous card.

If it is an EXACT MATCH to the previous card, press YES (K key).
If it is NOT an EXACT MATCH to the previous card, press NO (D key).

Try to make your responses as accurate and fast as possible
after each card turns face up.
If you answer incorrectly or too soon, you will hear an error sound.

BECAUSE THERE IS NO PRIOR CARD TO COMPARE TO THE FIRST CARD, THE
CORRECT REPOSENSE FOR THE FIRST CARD is NO (D key).

Press ENTER to begin.

Enter

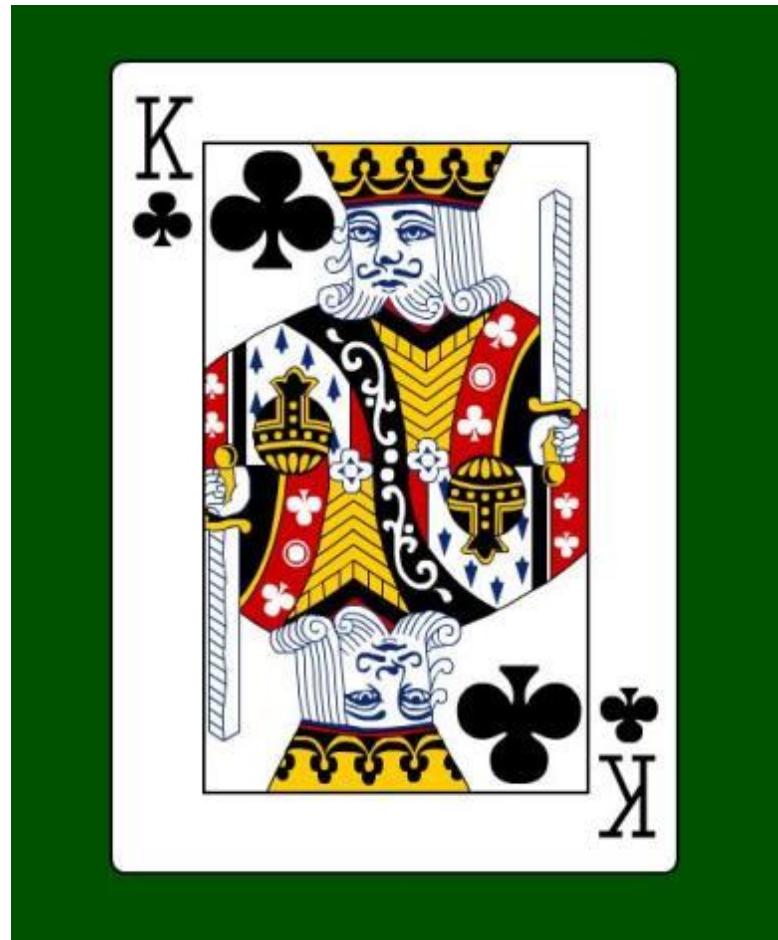


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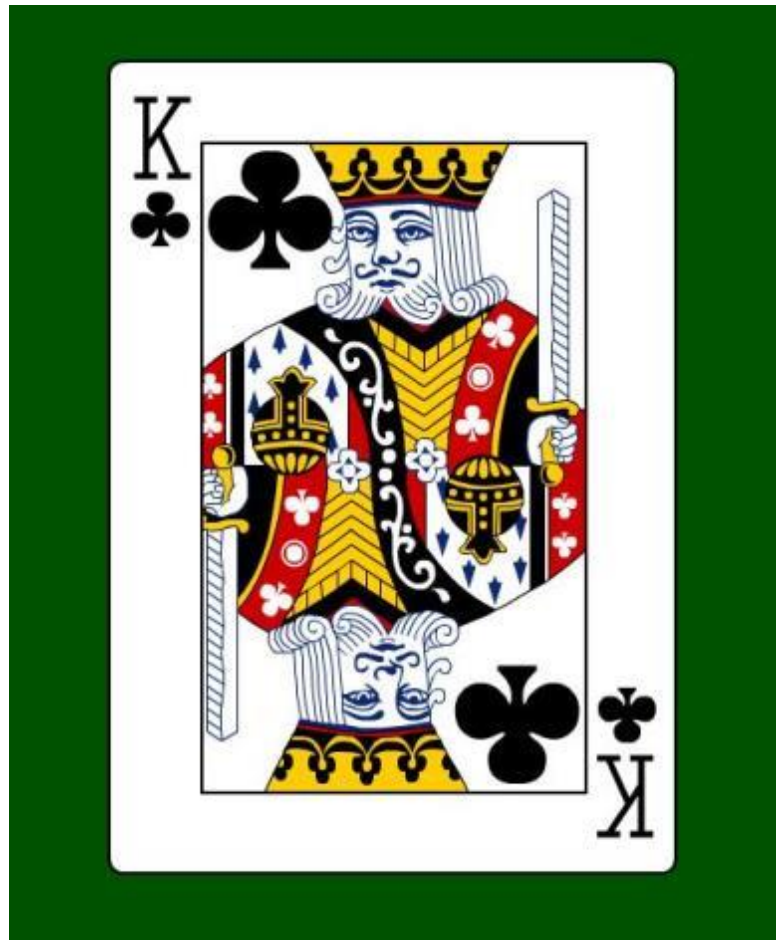


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Baseline Test Report

This is not a Medical Diagnosis. After injury reports should be interpreted only by a qualified Medical Provider and are intended solely to give the Provider additional information about an athlete's cognitive function.



Athlete Information

Name: Bradie FOSTER
 Birth Year: 1989
 Age: 25
 Gender: Male
 Dominant Hand: Right
 Test Date: 10 Apr 2014
 Test Time: 02:55 PM
 Test Duration: 522 seconds
 Expiration Date*: 9 Apr 2015
 Test ID: 1457

*While acceptable Baseline test results will be compared to After Injury tests, see Baseline tests are strongly recommended every year.

Integrity Checks

- Processing Accuracy > 80% (97%) ✓
- Attention Accuracy > 80% (97%) ✓
- Learning Accuracy > 53% (63%) ✓
- W. Memory Accuracy > 53% (91%) ✓
- Processing Speed < Attention Speed ✓
- Processing Speed < W. Memory Speed ✓

Note: This is not a Medical Diagnosis. After injury reports should be interpreted only by a qualified Medical Provider and are intended solely to give the Provider additional information about an athlete's cognitive function. "Acceptable" means only that a baseline score on a particular test is statistically within normal ranges. It does not guarantee that the Computerized Cognitive Assessment Tool (COAT) results are an accurate measure of a particular athlete's cognitive function. Many factors can influence the quality and validity of COAT results, including low motivation, distractions during test taking, emotional distress, lack of sleep, etc. A baseline test should be repeated if it is suspected that such factors may have impaired the testing process.

Test Results

Task	Score	Acceptable
10 Apr 2014		
Processing Speed	108.2	✓
Speed ¹	243 ms	
Accuracy ²	97.3%	
Htz ³	36	
Misc ⁴	1	
Anticipation ⁵	1	
Attention	104.8	✓
Speed ¹	457 ms	
Accuracy ²	94.0%	
Htz ³	30	
Misc ⁴	1	
Anticipation ⁵	0	
Learning	94.6	✓
Speed ¹	706 ms	
Accuracy ²	62.5%	
Htz ³	50	
Misc ⁴	30	
Anticipation ⁵	0	
Working Memory Speed	108.1	✓
Speed ¹	544 ms	
Working Memory Accuracy	98.9	✓
Accuracy ²	91.2%	
Htz ³	31	
Misc ⁴	3	
Anticipation ⁵	0	

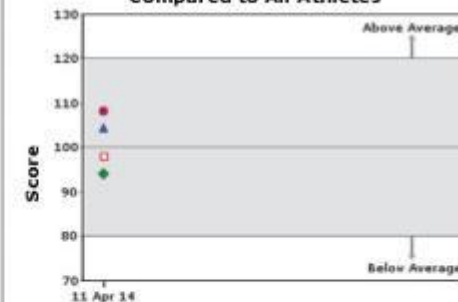
1. Higher sales indicates a slower response
2. A higher value indicates a better response
3. A higher value indicates a better performance
4. A higher value indicates a poorer performance
5. Threshold is 1.63 standard deviation computed from age-based white subject standard deviation

Note: Cognitive test results are standardized around a mean of 100 with a standard deviation of 10. All data is compared to age-matched normative baseline.

Explanation

Acceptable Baseline. Please send a copy of these results to your qualified Medical Provider for their records. A new Baseline test is recommended every year.

Compared to All Athletes



Warning: Taking this test will not prevent head injury. For more information on test reports and their meaning, visit www.axonsports.com. **Traumatic brain injury and concussion are very serious medical conditions. If it is suspected that an athlete may have sustained such an injury, they should immediately seek the care of a qualified Medical Provider. Only a qualified Medical Provider can safely make a decision on whether an athlete has sustained a traumatic brain injury or concussion or whether an athlete is ready to return to sports or school.** This report's sole purpose is to give qualified Medical Providers additional information about an athlete's cognitive function. Test data and results are to be interpreted by qualified Medical Providers and are never a substitute for their expert medical judgment. This report does not provide a medical diagnosis and return to play decisions must consider all clinical signs and symptoms, history of concussion, and the results of any other investigations undertaken (eg. MRI or CT scans). Many factors can influence the quality and validity of COAT test results, including low motivation, distractions during test taking, emotional distress, lack of sleep, etc. A Baseline or After Injury test should be repeated if it is suspected that such factors may have impaired the testing process.

Questions? If you have questions regarding this test, please feel free to contact us customerservice@axonsports.com. You can also call us at 1,877,395,2566 between 8 am and 8 pm CST. Please be advised that our customer service representatives are not authorized nor able to provide medical counsel or advice of any kind. Such issues should be discussed with a qualified Medical Provider.



Questions?





Assessment

