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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
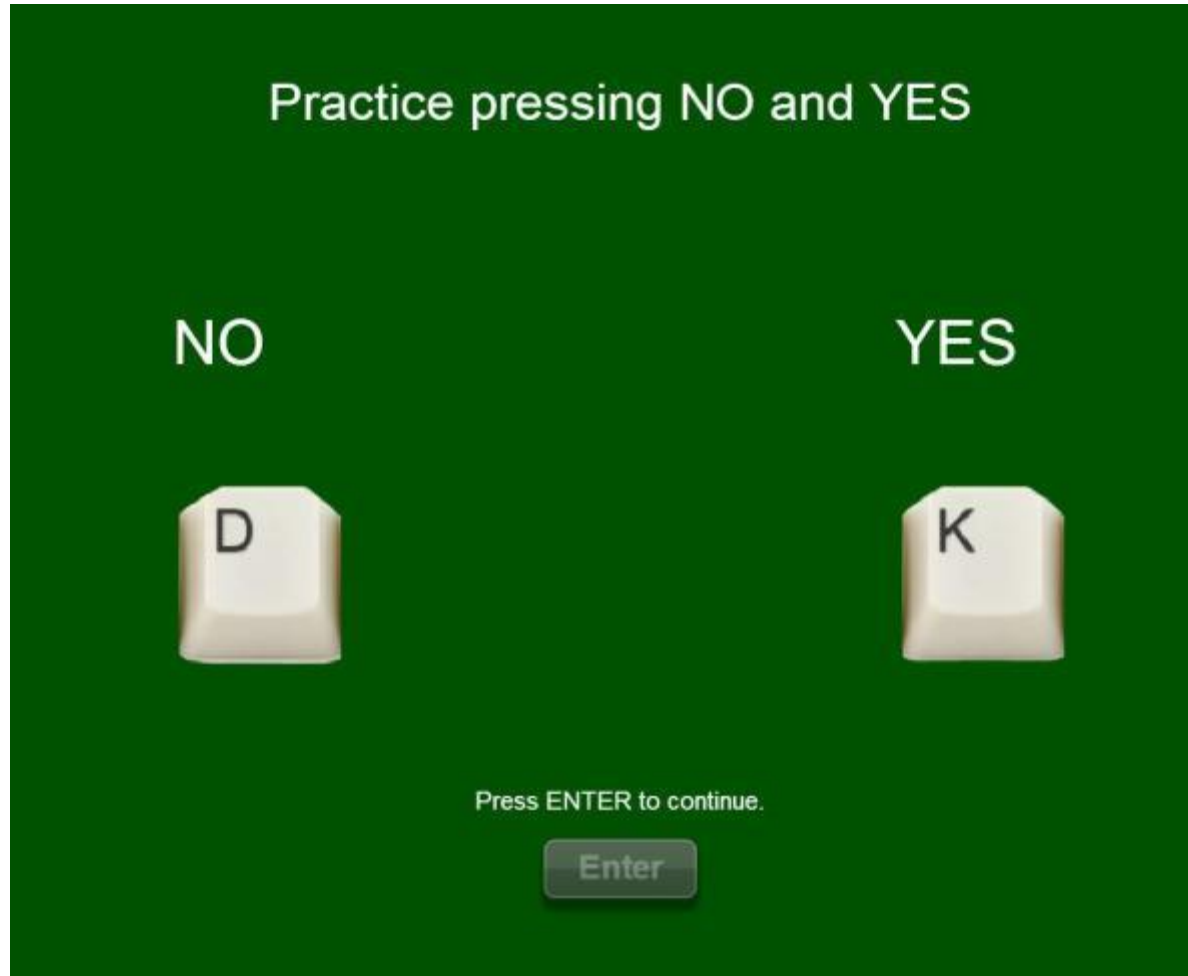indicators.

Enter

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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.

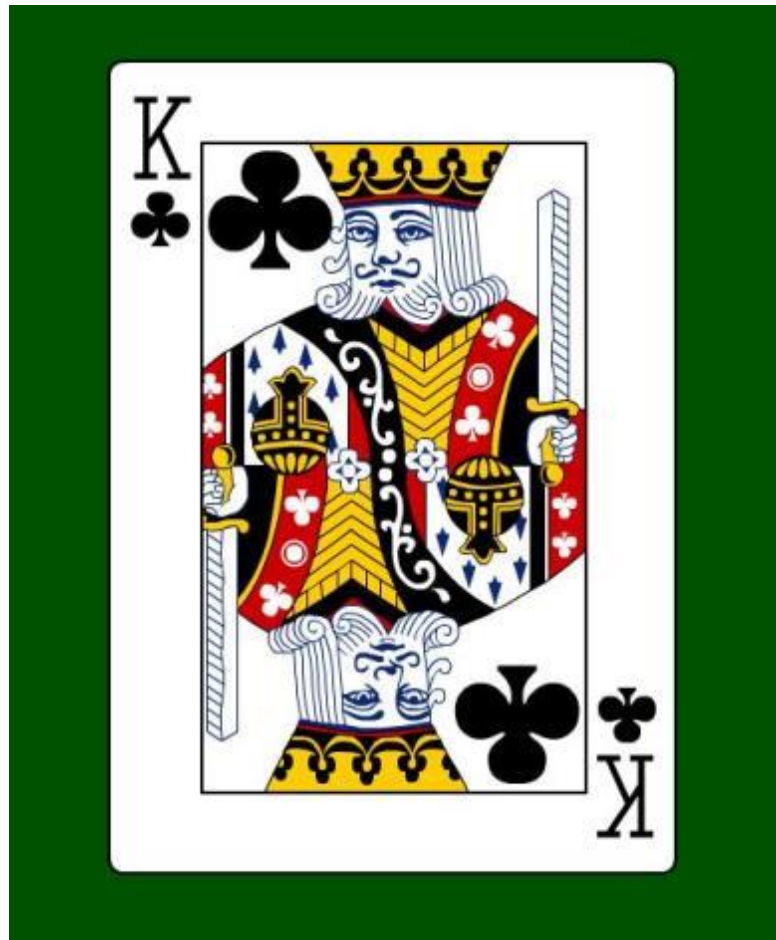If you answer incorrectly or too soon, you will hear an error sound.

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
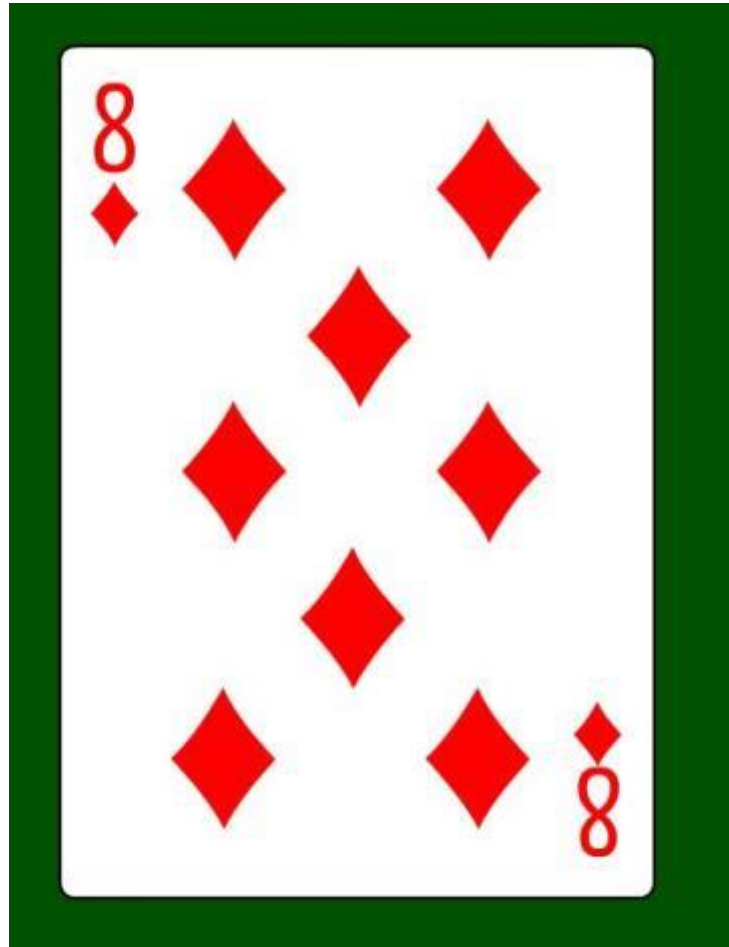CORRECT RESPONSE FOR THE FIRST CARD IS NO (D key).
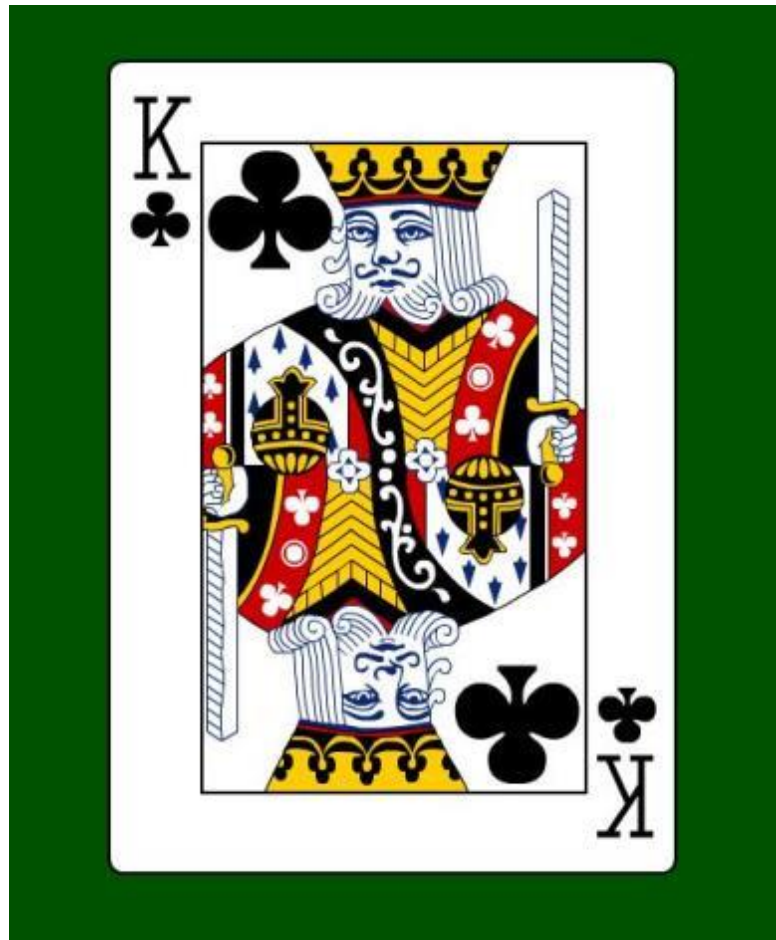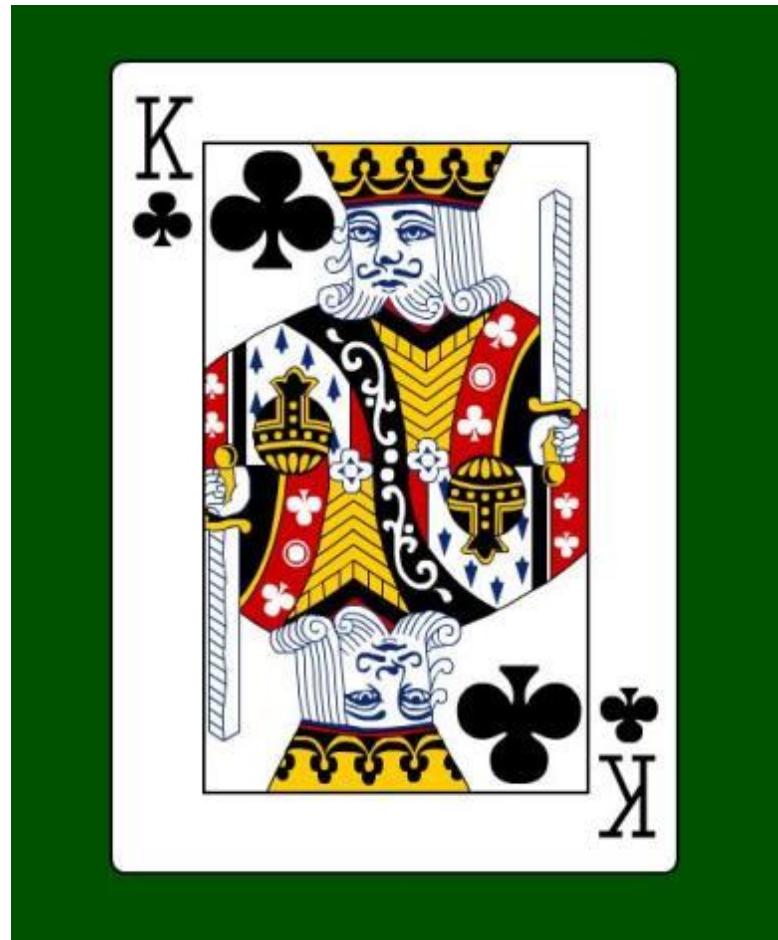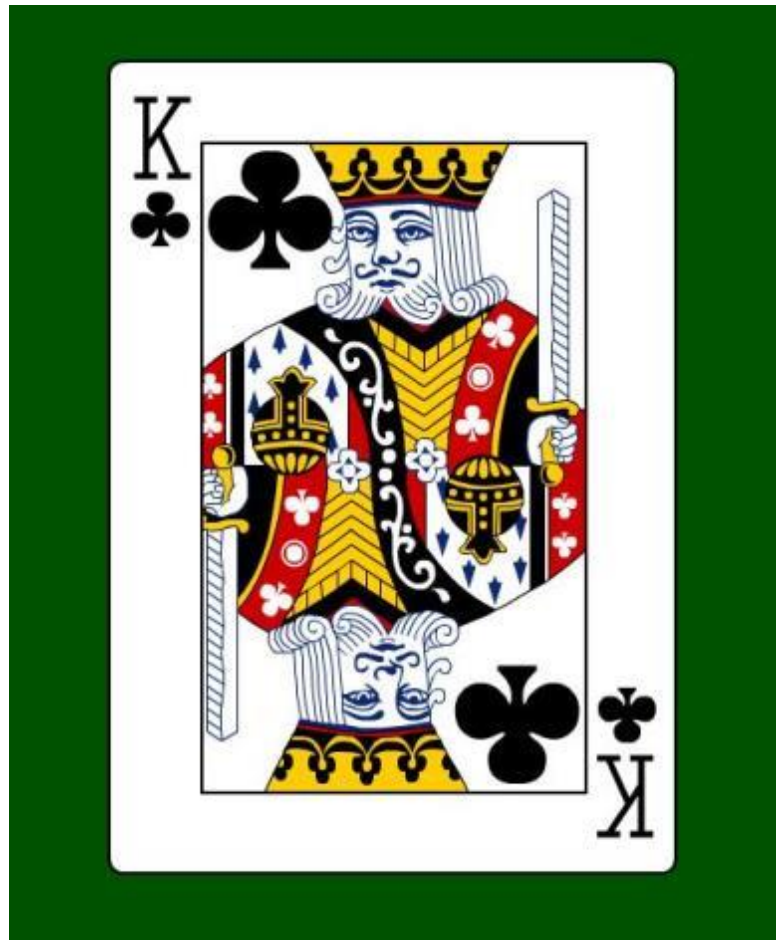
Press ENTER to begin.

Enter

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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, new 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 (CCAT) results are an accurate measure of a particular athlete's cognitive function. Many factors can influence the quality and validity of CCAT 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

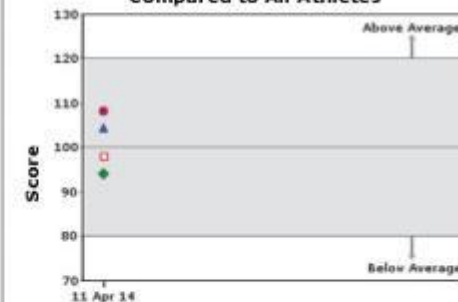| Task	Score 10 Apr 2014	Acceptable
● Processing Speed	108.2	✓
Speed[1]	263 ms	
Accuracy[2]	97.3%	
Hits[3]	36	
Misses[4]	1	
Anticipations[5]	1	
▲ Attention	104.8	✓
Speed[1]	457 ms	
Accuracy[2]	96.8%	
Hits[3]	30	
Misses[4]	1	
Anticipations[5]	0	
◆ Learning	94.6	✓
Speed[1]	706 ms	
Accuracy[3]	62.5%	
Hits[3]	50	
Misses[4]	30	
Anticipations[5]	0	
■ Working Memory Speed	108.1	✓
Speed[1]	544 ms	
☐ Working Memory Accuracy	98.9	✓
Accuracy[3]	91.2%	
Hits[3]	31	
Misses[4]	3	
Anticipations[5]	0	

1. A higher value 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 1.65 standard deviations computed from age-based within-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

Above Average / Below Average — Score scale 70–130, 11 Apr 14

Questions?

Assessment