



CONCUSSION BASELINE TESTING

Thank you for your interest in concussion baseline testing. Below are instructions which will help make the testing process as efficient as possible. Please plan to spend 15-20 minutes with us. We also request that parents are present for the entire testing, in case there are questions.

DATE OF BASELINE TESTING: Saturday, August 29 (Chesterfield County Public Schools—Career and Technical Education at 13900 Hull Street Road, Midlothian 23112)

TIME: Please call Sheltering Arms to schedule your testing session at 764-1001. Sessions are available from 10:00am to 4:00pm.

DOCUMENTS TO COMPLETE: **PRIOR** to August 29, please complete one of the sets of forms:

-if your child is age 5 to 12 years, please complete **BASELINE PACKET A**. In this Packet A, please fill out: (1) Consent Form for Baseline Testing, (2) the Background, Section 3 and Section 4 of the Child-SCAT3, and (3) the top section of the King-Devick [name, DOB, etc.]. Please ensure that your child's name is on every page.

-if your child is 13 years or older, please complete **BASELINE PACKET B**. In this Packet B, please fill out: (1) Consent Form for Baseline Testing, (2) the Background and Section 3 of the SCAT3, and (3) the top section of the King-Devick [name, DOB, etc.]. Please ensure that your child's name is on every page.

PAYMENT: The group rate for baseline testing is **\$20**. Cash and checks only. Please make checks payable to Sheltering Arms. No credit cards. Payment accepted on-site only.

WHAT IS A BASELINE TEST? A baseline test is a pre-season screening conducted by a trained healthcare professional to determine an individual's normal levels of balance and brain functioning prior to engaging in athletic activity.

Baseline testing provides important information that can be compared with results of similar assessments in the event of a suspected concussion during the season. The comparison of baseline tests results to post-injury results can help in identifying severity of injury and support critical decisions regarding returning safely to play and other daily activities.

QUESTIONS? For more information about concussion care services, please visit www.ShelteringArms.com. For questions about this concussion baseline testing event, please contact Anne Chan at achan@shelteringarms.com.



CONSENT FOR BASELINE TESTING

The undersigned consents to concussion baseline testing (King-Devick™ and Child-SCAT3™ or SCAT3™, depending on age) provided by Sheltering Arms Physical Rehabilitation Centers. The undersigned understands that if he/she has any questions regarding concussion baseline testing and its results, he/she can contact Sheltering Arms by phone (804) 764-5240 or by email (achan@shelteringarms.com).

Athlete's Name (Print)

Athlete's Date of Birth

Parent's Name (Print)

Address

Phone Number

Parent's Signature

Date

Name of Pediatrician

May we send your child's baseline testing results to his/her pediatrician? Please circle: YES NO

For Internal Use:

Patient Account Number:

Medical Record Number:

SCAT3™



FIFA®



FEI

Sport Concussion Assessment Tool – 3rd Edition

For use by medical professionals only

Name _____

Date/Time of Injury
Date of Assessment _____

Examiner _____

What is the SCAT3?

The SCAT3 is a standardized tool for evaluating injured athletes for concussion and can be used in athletes aged from 13 years and older. It supersedes the original SCAT and the SCAT2 published in 2005 and 2009, respectively. For younger persons, ages 12 and under, please use the Child SCAT3. The SCAT3 is designed for use by medical professionals. If you are not qualified, please use the Sport Concussion Recognition Tool[®]. Preseason baseline testing with the SCAT3 can be helpful for interpreting post-injury test scores.

Specific instructions for use of the SCAT3 are provided on page 3. If you are not familiar with the SCAT3, please read through these instructions carefully. This tool may be freely copied in its current form for distribution to individuals, teams, groups and organizations. Any revision or any reproduction in a digital form requires approval by the Concussion in Sport Group.

NOTE: The diagnosis of a concussion is a clinical judgment, ideally made by a medical professional. The SCAT3 should not be used solely to make, or exclude, the diagnosis of concussion in the absence of clinical judgement. An athlete may have a concussion even if their SCAT3 is "normal".

What is a concussion?

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific signs and/or symptoms (some examples listed below) and most often does not involve loss of consciousness. Concussion should be suspected in the presence of **any one or more** of the following:

- Symptoms (e.g., headache), or
- Physical signs (e.g., unsteadiness), or
- Impaired brain function (e.g. confusion) or
- Abnormal behaviour (e.g., change in personality)

SIDELINE ASSESSMENT

Indications for Emergency Management

NOTE: A hit to the head can sometimes be associated with a more serious brain injury. Any of the following warrants consideration of activating emergency procedures and urgent transportation to the nearest hospital:

- Glasgow Coma score less than 15
- Deteriorating mental status
- Potential spinal injury
- Progressive, worsening symptoms or new neurologic signs

Potential signs of concussion?

If any of the following signs are observed after a direct or indirect blow to the head, the athlete should stop participation, be evaluated by a medical professional and **should not be permitted to return to sport the same day** if a concussion is suspected.

Any loss of consciousness? ☐ Y ☐ N

"If so, how long?" _____

Balance or motor incoordination (stumbles, slow/laboured movements, etc.)? ☐ Y ☐ N

Disorientation or confusion (inability to respond appropriately to questions)? ☐ Y ☐ N

Loss of memory: ☐ Y ☐ N

"If so, how long?" _____

"Before or after the injury?" _____

Blank or vacant look: ☐ Y ☐ N

Visible facial injury in combination with any of the above: ☐ Y ☐ N

1 Glasgow coma scale (GCS)

Best eye response (E)

No eye opening	1
Eye opening in response to pain	2
Eye opening to speech	3
Eyes opening spontaneously	4

Best verbal response (V)

No verbal response	1
Incomprehensible sounds	2
Inappropriate words	3
Confused	4
Oriented	5

Best motor response (M)

No motor response	1
Extension to pain	2
Abnormal flexion to pain	3
Flexion/Withdrawal to pain	4
Localizes to pain	5
Obeys commands	6

Glasgow Coma score (E + V + M) _____ of 15

GCS should be recorded for all athletes in case of subsequent deterioration.

2 Maddocks Score³

"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

What venue are we at today?	0	1
Which half is it now?	0	1
Who scored last in this match?	0	1
What team did you play last week/game?	0	1
Did your team win the last game?	0	1

Maddocks score _____ of 5

Maddocks score is validated for sideline diagnosis of concussion only and is not used for serial testing.

Notes: Mechanism of Injury ("tell me what happened?")

Any athlete with a suspected concussion should be REMOVED FROM PLAY, medically assessed, monitored for deterioration (i.e., should not be left alone) and should not drive a motor vehicle until cleared to do so by a medical professional. No athlete diagnosed with concussion should be returned to sports participation on the day of injury.

BACKGROUND

Name: _____ Date: _____

Examiner: _____

Sport/team/school: _____ Date/time of injury: _____

Age: _____ Gender: ☐ M ☐ F

Years of education completed: _____

Dominant hand: ☐ right ☐ left ☐ neither

How many concussions do you think you have had in the past? _____

When was the most recent concussion? _____

How long was your recovery from the most recent concussion? _____

Have you ever been hospitalized or had medical imaging done for a head injury? ☐ Y ☐ N

Have you ever been diagnosed with headaches or migraines? ☐ Y ☐ N

Do you have a learning disability, dyslexia, ADD/ADHD? ☐ Y ☐ N

Have you ever been diagnosed with depression, anxiety or other psychiatric disorder? ☐ Y ☐ N

Has anyone in your family ever been diagnosed with any of these problems? ☐ Y ☐ N

Are you on any medications? If yes, please list: ☐ Y ☐ N

SCAT3 to be done in resting state. Best done 10 or more minutes post exercise.

SYMPTOM EVALUATION

3 How do you feel?

"You should score yourself on the following symptoms, based on how you feel now".

	none	mild		moderate		severe	
Headache	0	1	2	3	4	5	6
"Pressure in head"	0	1	2	3	4	5	6
Neck Pain	0	1	2	3	4	5	6
Nausea or vomiting	0	1	2	3	4	5	6
Dizziness	0	1	2	3	4	5	6
Blurred vision	0	1	2	3	4	5	6
Balance problems	0	1	2	3	4	5	6
Sensitivity to light	0	1	2	3	4	5	6
Sensitivity to noise	0	1	2	3	4	5	6
Feeling slowed down	0	1	2	3	4	5	6
Feeling like "in a fog"	0	1	2	3	4	5	6
"Don't feel right"	0	1	2	3	4	5	6
Difficulty concentrating	0	1	2	3	4	5	6
Difficulty remembering	0	1	2	3	4	5	6
Fatigue or low energy	0	1	2	3	4	5	6
Confusion	0	1	2	3	4	5	6
Drowsiness	0	1	2	3	4	5	6
Trouble falling asleep	0	1	2	3	4	5	6
More emotional	0	1	2	3	4	5	6
Irritability	0	1	2	3	4	5	6
Sadness	0	1	2	3	4	5	6
Nervous or Anxious	0	1	2	3	4	5	6

Total number of symptoms (Maximum possible 22)

Symptom severity score (Maximum possible 132)

Do the symptoms get worse with physical activity? ☐ Y ☐ N

Do the symptoms get worse with mental activity? ☐ Y ☐ N

☐ self rated ☐ self rated and clinician monitored
☐ clinician interview ☐ self rated with parent input

Overall rating: If you know the athlete well prior to the injury, how different is the athlete acting compared to his/her usual self?

Please circle one response:

☐ no different ☐ very different ☐ unsure ☐ N/A

Scoring on the SCAT3 should not be used as a stand-alone method to diagnose concussion, measure recovery or make decisions about an athlete's readiness to return to competition after concussion. Since signs and symptoms may evolve over time, it is important to consider repeat evaluation in the acute assessment of concussion.

COGNITIVE & PHYSICAL EVALUATION

4 Cognitive assessment

Standardized Assessment of Concussion (SAC)⁴

Orientation (1 point for each correct answer)

What month is it?	0	1
What is the date today?	0	1
What is the day of the week?	0	1
What year is it?	0	1
What time is it right now? (within 1 hour)	0	1

Orientation score

of 5

Immediate memory

List	Trial 1		Trial 2		Trial 3		Alternative word list		
elbow	0	1	0	1	0	1	candle	baby	finger
apple	0	1	0	1	0	1	paper	monkey	penny
carpet	0	1	0	1	0	1	sugar	perfume	blanket
saddle	0	1	0	1	0	1	sandwich	sunset	lemon
bubble	0	1	0	1	0	1	wagon	iron	insect
Total									

Immediate memory score total

of 15

Concentration: Digits Backward

List	Trial 1		Alternative digit list		
4-9-3	0	1	6-2-9	5-2-6	4-1-5
3-8-1-4	0	1	3-2-7-9	1-7-9-5	4-9-6-8
6-2-9-7-1	0	1	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3
7-1-8-4-6-2	0	1	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6
Total of 4					

Concentration: Month in Reverse Order (1 pt. for entire sequence correct)

Dec-Nov-Oct-Sept-Aug-Jul-Jun-May-Apr-Mar-Feb-Jan

0 1

Concentration score

of 5

5 Neck Examination:

Range of motion Tenderness Upper and lower limb sensation & strength

Findings:

6 Balance examination

Do one or both of the following tests.

Footwear (shoes, barefoot, braces, tape, etc.)

Modified Balance Error Scoring System (BESS) testing⁸

Which foot was tested (i.e. which is the non-dominant foot) ☐ Left ☐ Right

Testing surface (hard floor, field, etc.)

Condition

Double leg stance: Errors

Single leg stance (non-dominant foot): Errors

Tandem stance (non-dominant foot at back): Errors

And/Or

Tandem gait^{4,7}

Time (best of 4 trials) seconds

7 Coordination examination

Upper limb coordination

Which arm was tested: ☐ Left ☐ Right

Coordination score

of 1

8 SAC Delayed Recall⁴

Delayed recall score

of 5



King-Devick Concussion Screening Test Score Sheet - Version 1

* → Subject Name/ID Number: _____ Date of Birth: _____
 Subject's Baseline Time: _____ Baseline Date: _____
 Team/Sport: _____ Glasses/Contacts: _____

Scoring King-Devick Test

When testing, start the timer when the subject reads the first number on the test card and stop the timer when the subject reads the last number on the test card. Continue timing when the subject reads the first number on the second test card and stop the timer when the subject reads the last number on the test card. Repeat for third test card. Do not include the time between completing individual test cards. Total Time is the total testing time for all three test cards combined.

Answer Key Test Card I	Answer Key Test Card II	Answer Key Test Card III
2-5-8-0-7	3-7-5-9-0	5-4-1-8-0
3-7-9-4-6	2-5-7-4-6	4-6-3-5-9
5-3-1-6-4	1-4-7-6-3	7-5-4-2-7
7-9-7-3-5	7-9-3-9-0	3-2-6-9-4
1-5-4-9-2	4-5-2-1-7	1-4-5-1-3
6-5-5-7-3	5-3-7-4-8	9-3-4-8-5
3-1-8-6-4	7-4-6-5-2	5-1-6-3-1
5-3-7-5-2	9-0-2-3-6	4-3-5-2-7

Establishing A King-Devick Test Baseline

When establishing a Subject's initial Baseline Time, administer the King-Devick Test twice using the scoring instructions above. Use the fastest Baseline Total Time without errors of the two attempts below.*

Baseline Attempt Time #1	Baseline Attempt Time #2	*Subject's Baseline Time
Total Time: _____	Total Time: _____	Total Time: _____
Total Errors: _____	Total Errors: _____	Total Errors: _____
Tester Initials: _____	Tester Initials: _____	Tester Initials: _____

Testing After A Suspected Head Trauma

When testing after a suspected head trauma, the test should be administered once.

If the subject performs **SLOWER** than his/her baseline or has **INCREASED** errors, the subject should be **removed-from-play** and referred to a health care professional for additional evaluation.

If the subject performs **FASTER** than his/her baseline **WITHOUT** errors, the Total Time will become the subject's new Baseline Time.

Date: _____	Date: _____	Date: _____
Total Time: _____	Total Time: _____	Total Time: _____
Total Errors: _____	Total Errors: _____	Total Errors: _____
Tester Initials: _____	Tester Initials: _____	Tester Initials: _____
Comments: _____	Comments: _____	Comments: _____

King-Devick Test is for screening purposes only and any suspicion or indication of head trauma should be evaluated by a licensed professional.
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