

Sault Area Schools Athletics

In partnership with
Sault Health Adolescent Care Center
(SHACC) and MyMichigan Sault Rehab
Concussion/Traumatic Brain Injury



Concussion

What is it? A concussion is a type of traumatic brain injury (TBI).

What causes it? A bump, blow, or jolt to the head, or a hit to the body that causes the head and brain to move back and forth quickly.

What about the brain? Sudden movement can cause the brain to bounce around or twist in the skull.

So what? Concussions can create chemical changes in the brain, leading to stretching and damage of brain cells.



CONCUSSION SYMPTOMS

COGNITIVE (MENTAL)

Feeling Mentally Foggy
Feeling Slowed Down
Difficulty Concentrating
Difficulty Remembering



SLEEP

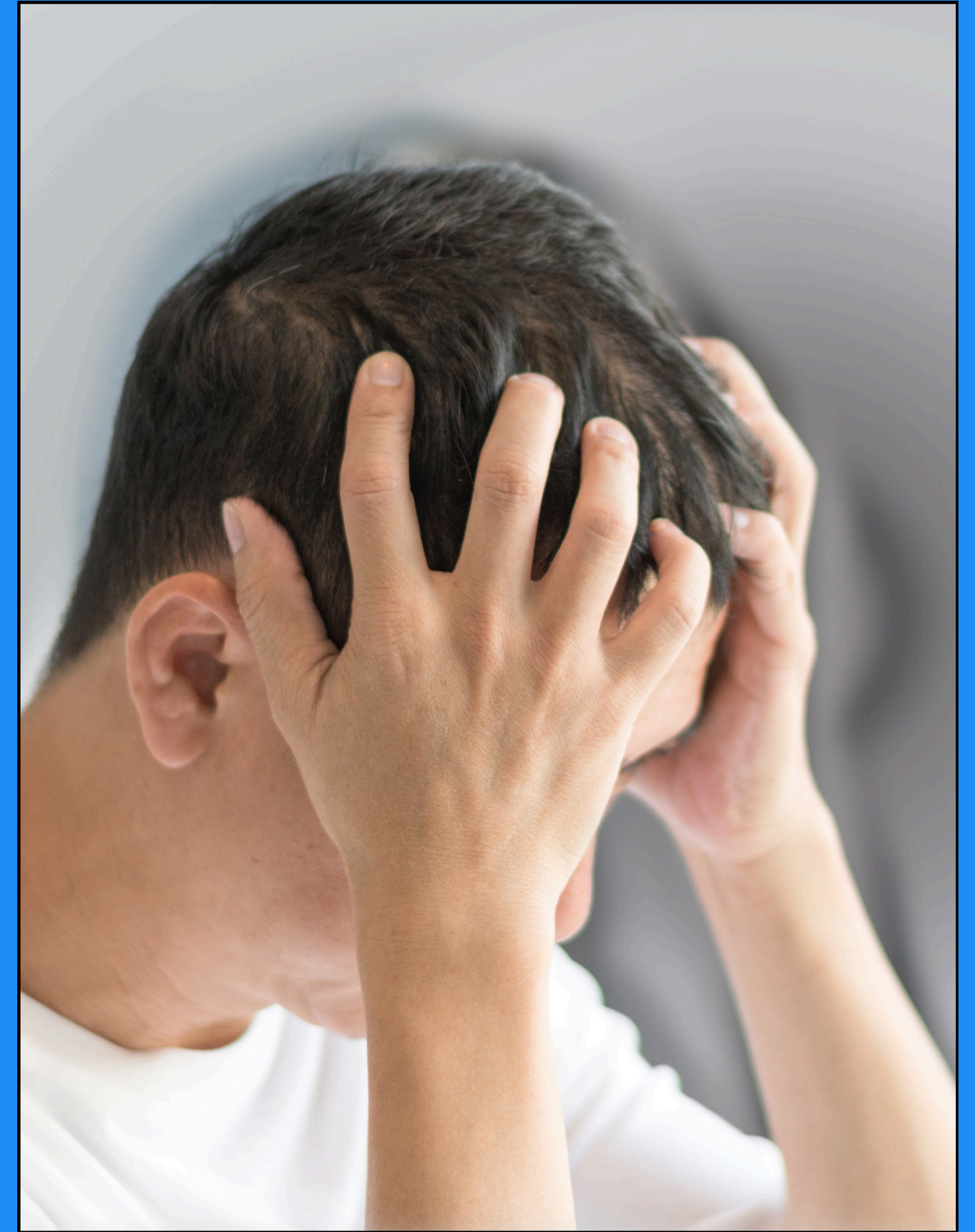
Drowsiness
Sleeping Less
Sleeping More
Trouble Falling Asleep

PHYSICAL

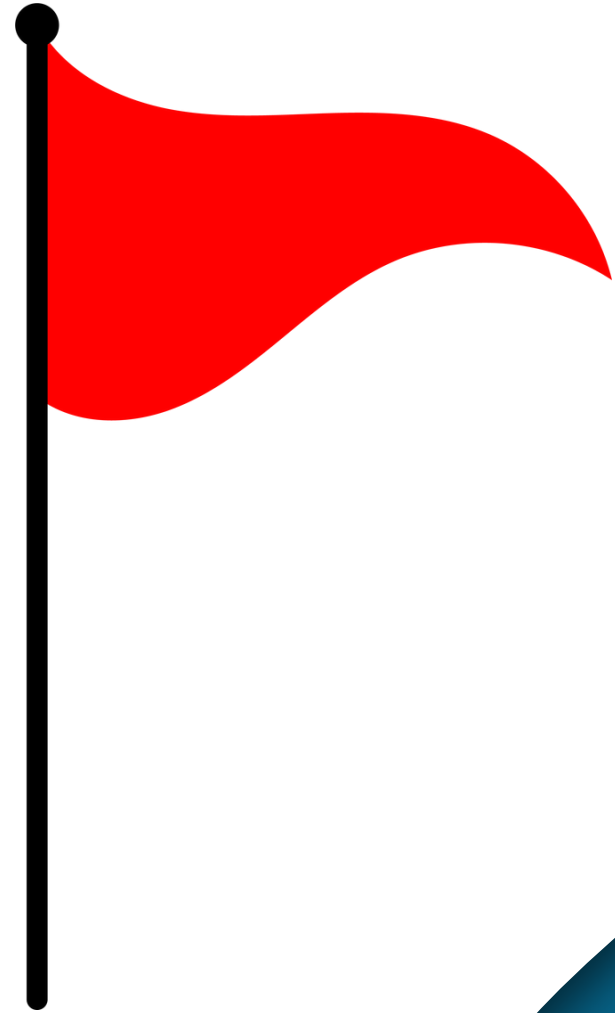
Headache
Nausea
Vomiting
Balance Problems
Dizziness
Visual Problems
Fatigue
Sensitivity to Light
Sensitivity to Noise
Numbness/Tingling

EMOTIONAL

Irritability
Moodiness
Sadness
Nervousness
Decreased Interest



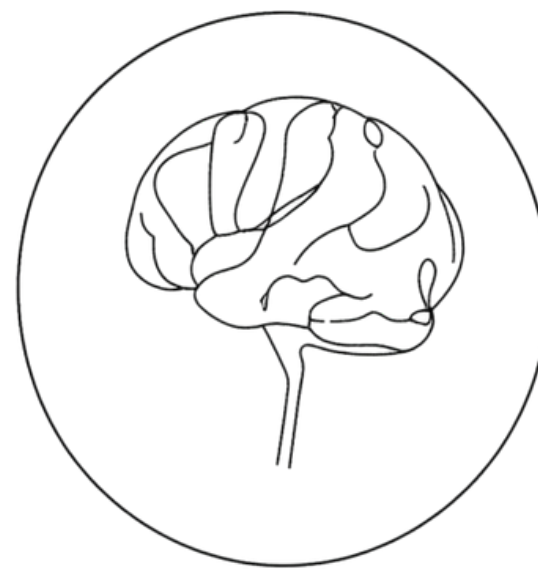
RED FLAG



WHEN TO GO TO THE EMERGENCY ROOM

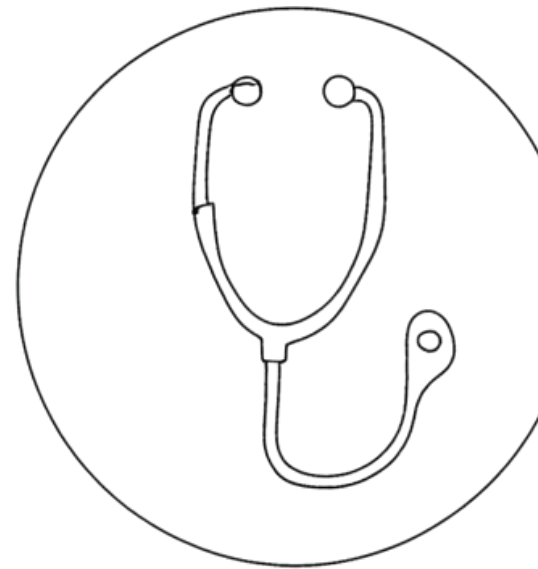
- Loss of consciousness for more than 1 minute
- Increasing confusion or inability to stay awake
- Repetitive vomiting
- Severe or increasing headache
- Severe neck pain
- Weakness, tingling, or burning in arms or legs
- Persistent double vision or loss of vision
- Increasingly restless, agitated or combative

Sault Area High School Concussion Protocol



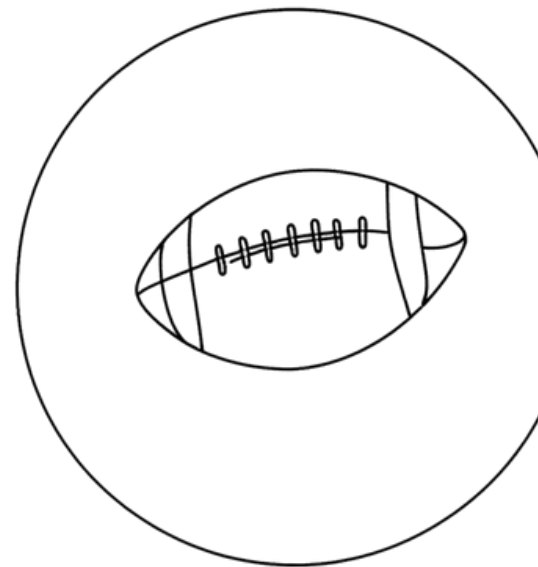
Suspected Concussion

Athlete is evaluated on the side lines by the athletic trainer. If an athletic trainer is not present the athlete should be pulled from participation/practice until they can be evaluated.



Athlete Evaluation

Athletic trainer, coach or athletic director contacts nurse practitioner about a suspected concussion and an appointment is made for student. Parents and student athletes can also make an appointment for evaluation.



Return to Play

Student athlete is evaluated by the nurse practitioner and once cleared can begin the BRAIN protocol with the athletic trainer. After completion of BRAIN protocol the student returns to NP for final clearance to return to play.

CONCUSSION TESTING: SCAT6

Sport Concussion Assessment Tool

- Done within 72 hours of a concussion
- Includes:
 - Athlete background
 - Symptom evaluation
 - Cognitive screen
 - Orientation
 - Immediate memory
 - Concentration
 - Coordination and Balance
 - mBESS (modified Balance Error Scoring System)
 - Timed tandem gait
 - Dual task gait (*optional*)
 - Delayed Recall



SCAT6™

Sport Concussion Assessment Tool

Step 1: Athlete Background

Has the athlete ever been:

Hospitalised for head injury? (If yes, describe below)

Y N

Diagnosed/treated for headache disorder or migraine?

Y N

Diagnosed with a learning disability/dyslexia?

Y N

Diagnosed with attention deficit hyperactivity disorder (ADHD)?

Y N

Diagnosed with depression, anxiety, or other psychological disorder?

Y N

Notes:

Current medications? If yes, please list:

How many diagnosed concussions has the athlete had in the past?:

When was the most recent concussion?:

Primary Symptoms:

How long was the recovery (time to being cleared to play) from the most recent concussion?:

(Days)

Step 2: Symptom Evaluation

Baseline: Suspected/Post-injury: Time elapsed since suspected injury: mins/hours/days

The athlete will complete the symptom scale (below) after you provide instructions. Please note that the instructions are different for baseline versus suspected/post-injury evaluations.

Baseline: Say *“Please rate your symptoms below based on how you typically feel with “1” representing a very mild symptom and “6” representing a severe symptom.”*

Suspected/Post-injury: Say *“Please rate your symptoms below based on how you feel now with “1” representing a very mild symptom and “6” representing a severe symptom.”*

PLEASE HAND THE FORM TO THE ATHLETE

Symptom	Rating							
Headaches	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	

Do your symptoms get worse with physical activity? Y N

Do your symptoms get worse with mental activity? Y N

If 100% is feeling perfectly normal, what percent of normal do you feel?

If not 100%, why?

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
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
Trouble falling asleep (if applicable)	0	1	2	3	4	5	6

PLEASE HAND THE FORM BACK TO THE EXAMINER

Once the athlete has completed answering all symptom items, it may be useful for the clinician to revisit items that were endorsed positively to gather more detail about each symptom.

Total number of symptoms: of 22

Symptom severity score: of 132

Step 3: Cognitive Screening (Based on Standardized Assessment of Concussion; SAC)²

Orientation

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

All 3 trials must be administered irrespective of the number correct on Trial 1. Administer at the rate of one word per second.

Trial 1: Say *“I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order.”*

Trials 2 and 3: Say *“I am going to repeat the same list. Repeat back as many words as you can remember in any order, even if you said the word before in a previous trial.”*

Word list used: A ☐ B ☐ C ☐				Alternate Lists	
List A	Trial 1	Trial 2	Trial 3	List B	List C
Jacket	0 1	0 1	0 1	Finger	Baby
Arrow	0 1	0 1	0 1	Penny	Monkey
Pepper	0 1	0 1	0 1	Blanket	Perfume
Cotton	0 1	0 1	0 1	Lemon	Sunset
Movie	0 1	0 1	0 1	Insect	Iron
Dollar	0 1	0 1	0 1	Candle	Elbow
Honey	0 1	0 1	0 1	Paper	Apple

Mirror	01	01	01	Sugar	Carpet
Saddle	01	01	01	Sandwich	Saddle
Anchor	01	01	01	Wagon	Bubble
Trial Total					

Immediate Memory Score

of 30

Time Last Trial Completed:

Step 3: Cognitive Screening (Continued)

Concentration

Digits Backward:

Administer at the rate of one digit per second reading DOWN the selected column. If a string is completed correctly, move on to the string with next higher number of digits; if the string is completed incorrectly, use the alternate string with the same number of digits; if this is failed again, end the test.

Say “I’m going to read a string of numbers and when I am done, you repeat them back to me in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7. So, if I said 9-6-8 you would say? (8-6-9)”

Digit list used: A ☐ B ☐ C ☐

List A	List B	List C			
4-9-3	5-2-6	1-4-2	Y	N	0 1
6-2-9	4-1-5	6-5-8	Y	N	
3-8-1-4	1-7-9-5	6-8-3-1	Y	N	0 1
3-2-7-9	4-9-6-8	3-4-8-1	Y	N	
6-2-9-7-1	4-8-5-2-7	4-9-1-5-3	Y	N	0 1
1-5-2-8-6	6-1-8-4-3	6-8-2-5-1	Y	N	
7-1-8-4-6-2	8-3-1-9-6-4	3-7-6-5-1-9	Y	N	0 1

Months in Reverse Order:

Say *“Now tell me the months of the year in reverse order as QUICKLY and as accurately as possible. Start with the last month and go backward. So, you’ll say December, November... go ahead”*

Start stopwatch and **CIRCLE** each correct response:

December November October September August July June May April March February January

Time Taken to Complete (secs): Number of Errors:

1 point if no errors and completion under 30 seconds

Months Score: of 1

Concentration Score (Digits + Months) of 5

Step 4: Coordination and Balance Examination

Modified Balance Error Scoring System (mBESS)³ testing

(see detailed administration instructions)

Foot Tested: Left ☐ Right ☐ (i.e. test the **non-dominant** foot)

Testing Surface (hard floor, field, etc.):

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

Modified BESS

(20 seconds each)

Double Leg Stance: of 10

Tandem Stance: of 10

Single Leg Stance: of 10

Total Errors: of 30

On Foam (Optional)

Double Leg Stance: of 10

Tandem Stance: of 10

Single Leg Stance: of 10

Total Errors: of 30

Note: If the **mBESS** yields normal findings then proceed to the **Tandem Gait/Dual Task Tandem Gait**.

If the **mBESS** reveals abnormal findings or clinically significant difficulties, **Tandem Gait** is not necessary at this time.

Both the **Tandem Gait** and optional **Dual Task** component may be administered later in the office setting as needed (see SCOAT6).

Timed Tandem Gait

Place a 3-metre-long line on the floor/firm surface with athletic tape. The task should be timed. Please complete all 3 trials.

Say *“Please walk heel-to-toe quickly to the end of the tape, turn around and come back as fast as you can without separating your feet or stepping off the line.”*

Single Task:

Time to Complete Tandem Gait Walking (seconds)				
Trial 1	Trial 2	Trial 3	Average 3 Trials	Fastest Trial

Step 5: Delayed Recall

The Delayed Recall should be performed after **at least 5 minutes** have elapsed since the end of the Immediate Memory section:
Score 1 point for each correct response.

Say *“Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order.”*

Time started:

Word list used:

A ☐

B ☐

C ☐

Alternate Lists

List A	Score	List B	List C
Jacket	0 1	Finger	Baby
Arrow	0 1	Penny	Monkey
Pepper	0 1	Blanket	Perfume
Cotton	0 1	Lemon	Sunset
Movie	0 1	Insect	Iron
Dollar	0 1	Candle	Elbow
Honey	0 1	Paper	Apple
Mirror	0 1	Sugar	Carpet
Saddle	0 1	Sandwich	Saddle

Anchor	01	Wagon	Bubble
Delayed Recall Score	of 10		

Total Cognitive Score

Orientation: of 5

Immediate Memory: of 30

Concentration: of 5

Delayed Recall: of 10

Total: of 50

If the athlete was known to you prior to their injury, are they different from their usual self?

Yes ☐ No ☐ Not applicable ☐ (If different, describe why In the [clinical notes](#) section)

Step 6: Decision

Domain	Date:	Date:	Date:
Neurological Exam (Acute Injury evaluation only)	Normal/Abnormal	Normal/Abnormal	Normal/Abnormal
Symptom number (of 22)			
Symptom Severity (of 132)			
Orientation (of 5)			
Immediate Memory (of 30)			
Concentration (of 5)			
Delayed Recall (of 10)			
Cognitive Total Score (of 50)			
mBESS Total Errors (of 30)			
Tandem Gait fastest time			
Dual Task fastest time			

Disposition

Concussion diagnosed?

Yes ☐ No ☐ Deferred ☐

CONCUSSION TESTING: SCOAT6

Sport Concussion Office Assessment Tool

- Done after 72 hours of a concussion
- Includes:
 - History
 - Current injury
 - History of head injuries
 - History of neurological, psychological, psychiatric, or learning disorders
 - Current medications
 - Family history of neurological, psychological, psychiatric, cognitive, or developmental disorders.
 - Symptom evaluation
 - Cognitive Tests
 - Immediate memory*
 - Concentration*

CONCUSSION TESTING: SCOAT6

Sport Concussion Office Assessment Tool

- Examination
- Coordination and Balance
 - mBESS (modified Balance Error Scoring System)*
 - Timed Tandem Gait*
 - Dual Task Gait (*optional*)
- Modified Vestibular/Ocular-Motor Screening (mVOMS).
- Anxiety/Depression Screen (*optional*).
- Sleep Screen (*optional*).
- Delayed Recall*

Symptom Evaluation

Please rate your symptoms below based on how you feel now with “1” representing a very mild symptom and “6” representing a severe symptom.

0	1	2	3	4	5	6
None	Mild		Moderate		Severe	

Symptom	Date of Assessment				
	Pre-injury	Day injured (date)	Consult 1	Consult 2	Consult 3
	Rating	Rating	Rating	Rating	Rating
Headaches					
Pressure in head					
Neck pain					
Nausea or vomiting					
Dizziness					
Blurred vision					
Balance problems					

Sensitivity to light					
Sensitivity to noise					
Feeling slowed down					
Feeling like “in a fog”					
Difficulty concentrating					
Difficulty remembering					
Fatigue or low energy					
Confusion					
Drowsiness					
More emotional					
Irritability					
Sadness					
Nervous or anxious					
Sleep disturbance					
Abnormal heart rate					
Excessive sweating					
Other _____					

Symptom Evaluation (Continued)

Symptom	Date of Assessment				
	Pre-injury	Day injured (date)	Consult 1	Consult 2	Consult 3
	Rating	Rating	Rating	Rating	Rating
Do symptoms worsen with physical activity?					
Do symptoms worsen with cognitive (thinking) activity?					
Symptom number					
Symptom severity score					
What percentage of normal do you feel?					

*Same
as
SCAT6

Verbal Cognitive Tests

Immediate Memory

All 3 trials must be administered irrespective of the number correct on Trial 1. Administer at the rate of one word per second in a monotone voice.

Trial 1: Say *"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."*

Trials 2 and 3: Say *"I am going to repeat the same list. Repeat back as many words as you can remember in any order, even if you said the word before in a previous trial."*

Word list used: A ☐ B ☐ C ☐

				Alternate Lists	
List A	Trial 1	Trial 2	Trial 3	List B	List C
Jacket	0 1	0 1	0 1	Finger	Baby
Arrow	0 1	0 1	0 1	Penny	Monkey
Pepper	0 1	0 1	0 1	Blanket	Perfume
Cotton	0 1	0 1	0 1	Lemon	Sunset
Movie	0 1	0 1	0 1	Insect	Iron
Dollar	0 1	0 1	0 1	Candle	Elbow
Honey	0 1	0 1	0 1	Paper	Apple
Mirror	0 1	0 1	0 1	Sugar	Carpet
Saddle	0 1	0 1	0 1	Sandwich	Saddle
Anchor	0 1	0 1	0 1	Wagon	Bubble
Trial Total					
Immediate Memory Total _____ of 30					
Time last trial completed:					

*Same
as
SCAT6

Digits Backwards

Administer at the rate of one digit per second in a monotone voice reading DOWN the selected column. If a string is completed correctly, move on to the string with next higher number of digits; if the string is completed incorrectly, use the alternate string with the same number of digits; if this is failed again, end the test.

Say *"I'm going to read a string of numbers and when I am done, you repeat them back to me in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7. So, if I said 9-6-8 you would say? 8-6-9"*

Digit list used: A ☐ B ☐ C ☐

List A	List B	List C			
4-9-3	5-2-6	1-4-2	Y	N	0 1
6-2-9	4-1-5	6-5-8	Y	N	
3-8-1-4	1-7-9-5	6-8-3-1	Y	N	0 1
3-2-7-9	4-9-6-8	3-4-8-1	Y	N	
6-2-9-7-1	4-8-5-2-7	4-9-1-5-3	Y	N	0 1
1-5-2-8-6	6-1-8-4-3	6-8-2-5-1	Y	N	
7-1-8-4-6-2	8-3-1-9-6-4	3-7-6-5-1-9	Y	N	0 1
5-3-9-1-4-8	7-2-4-8-5-6	9-2-6-5-1-4	Y	N	
Digits score					of 4

Months in Reverse Order

Say *"Now tell me the months of the year in reverse order as QUICKLY and as accurately as possible. Start with the last month and go backward. So, you'll say December, November... go ahead"*

Start stopwatch and CIRCLE each correct response:

December November October September August July June May April March February January

Time Taken to Complete (secs): (N <30 sec) Number of Errors:

Examination

Orthostatic Vital Signs

The first blood pressure and heart rate measurements are taken after the patient lies supine on the examination table for at least 2 minutes. The patient is then asked to stand up without support and with both feet firmly on the ground and the second measurements are taken after standing for 1 minute. Ask the patient if they experience any dizziness or light-headedness upon standing (initial orthostatic intolerance) or by one minute (orthostatic intolerance).

Orthostatic Vital Signs	Supine	Standing (after 1 minute)
Blood Pressure (mmHg)		
Heart Rate (bpm)		
Symptoms ¹ - Dizziness or light-headedness - Fainting - Blurred or fading vision - Nausea - Fatigue - Lack of concentration	No ☐ Yes ☐ If yes: Description	No ☐ Yes ☐ If yes: Description
Results	☐ Normal ☐ Abnormal	

Test results are deemed clinically significant if they include at least one of the following AND symptoms:
(1) systolic BP drop of $\geq 20\text{mmHg}$ or (2) diastolic BP drop of $\geq 10\text{mmHg}$ (3) HR decreases (4) HR increases by $> 30\text{bpm}$

Cervical Spine Assessment

Cervical Spine Palpation	Signs and Symptoms	
Muscle Spasm	☐ Normal	☐ Abnormal
Midline Tenderness	☐ Normal	☐ Abnormal
Paravertebral Tenderness	☐ Normal	☐ Abnormal

Cervical Active Range of Motion	Result	
Flexion (50-70°)	☐ Normal	☐ Abnormal
Extension (60-85°)	☐ Normal	☐ Abnormal
Right Lateral Flexion (40-50°)	☐ Normal	☐ Abnormal
Left Lateral Flexion (40-50°)	☐ Normal	☐ Abnormal
Right Rotation (60-75°)	☐ Normal	☐ Abnormal
Left Rotation (60-75°)	☐ Normal	☐ Abnormal

Neurological Examination

Cranial Nerves

Normal ☐ Abnormal ☐ Not tested ☐

Notes:

Other Neurological Findings

Limb Tone:	Normal	☐	Abnormal	☐	Not tested	☐
Strength:	Normal	☐	Abnormal	☐	Not tested	☐
Deep Tendon Reflexes:	Normal	☐	Abnormal	☐	Not tested	☐
Sensation:	Normal	☐	Abnormal	☐	Not tested	☐
Cerebellar Function:	Normal	☐	Abnormal	☐	Not tested	☐

Comments:

*Same
as
SCAT6

Balance

Barefoot on a firm surface with or without foam mat.

Foot Tested: Left ☐ Right ☐ (i.e. test the non-dominant foot)

Modified BESS

Double Leg Stance: of 10

Tandem Stance: of 10

Single Leg Stance: of 10

Total Errors: of 30

On Foam

Double Leg Stance: of 10

Tandem Stance: of 10

Single Leg Stance: of 10

Total Errors: of 30

Timed Tandem Gait

Place a 3-metre-long line on the floor/firm surface with athletic tape.

Say *“Please walk heel-to-toe quickly to the end of the tape, turn around and come back as fast as you can without separating your feet or stepping off the line.”*

Time to Complete Tandem Gait Walking (seconds)				
Trial 1	Trial 2	Trial 3	Average 3 Trials	Fastest Trial

Abnormal/failed to complete ☐ Unstable/sway ☐ Fall/over-step ☐ Dizzy/nauseous ☐

Modified Vestibular/Ocular-Motor Screening (mVOMS) for Concussion

For detailed instructions please see the Supplement.

mVOMS	Not Tested	Headache	Dizziness	Nausea	Fogginess	Comments
Baseline symptoms	N/A					
Smooth pursuits (2 horizontal and 2 vertical, 2 seconds to go full distance right-left and back; up-down and back)						
Saccades – Horizontal (10 times each direction)						
VOR – Horizontal (10 repetitions) (metronome set at 180 beats per minute – change direction at each beep, wait 10 secs to ask symptoms)						
VMS (x 5, 80° rotation side to side) (at 50 bpm, change direction each beep, wait 10 secs to ask symptoms)						

Anxiety Screen

Not Done ☐

Assign scores of 0, 1, 2, and 3 to the response categories, respectively, of “not at all,” “several days,” “more than half the days,” and “nearly every day.”

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Anxiety Screen Score:

0–4: minimal anxiety
10–14: moderate anxiety

5–9: mild anxiety
15–21: severe anxiety

Depression Screen

Not Done ☐

The purpose is to screen for depression in a “first-step” approach. Patients who screen positive should be further evaluated with the [PHQ-9](#) to determine whether they meet criteria for a depressive disorder.

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3

Depression Screen Score:

(Ranges from 0-6, 3 being the cutpoint to screen for depression)

Sleep Screen

Not Done

☐

1. During the past week how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.)	
5 to 6 hours	4
6 to 7 hours	3
7 to 8 hours	2
8 to 9 hours	1
More than 9 hours	0

2. How satisfied/dissatisfied were you with the quality of your sleep?	
Very dissatisfied	4
Somewhat dissatisfied	3
Somewhat satisfied	2
Satisfied	1
Very satisfied	0

3. During the recent past, how long has it usually taken you to fall asleep each night?	
Longer than 60 minutes	3
31-60 minutes	2
16-30 minutes	1
15 minutes or less	0

4. How often do you have trouble staying asleep?	
Five to seven times a week	3
Three of four times a week	2
Once or twice a week	1
Never	0

5. During the recent past, how often have you taken medicine to help you sleep? (prescribed or over-the-counter)	
Five to seven times a week	3
Three of four times a week	2
Once or twice a week	1
Never	0

Sleep Screen Score:

A higher sleep disorder score (SDS) indicates a greater likelihood of a clinical sleep disorder:

0-4 (Normal)

5-7 (Mild)

8-10 (Moderate)

11-17 (Severe)

*Same
as
SCAT6

Delayed Word Recall

Minimum of 5 minutes after immediate recall

Say *“Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order.”*

Word list used:

A

B

C

Alternate Lists

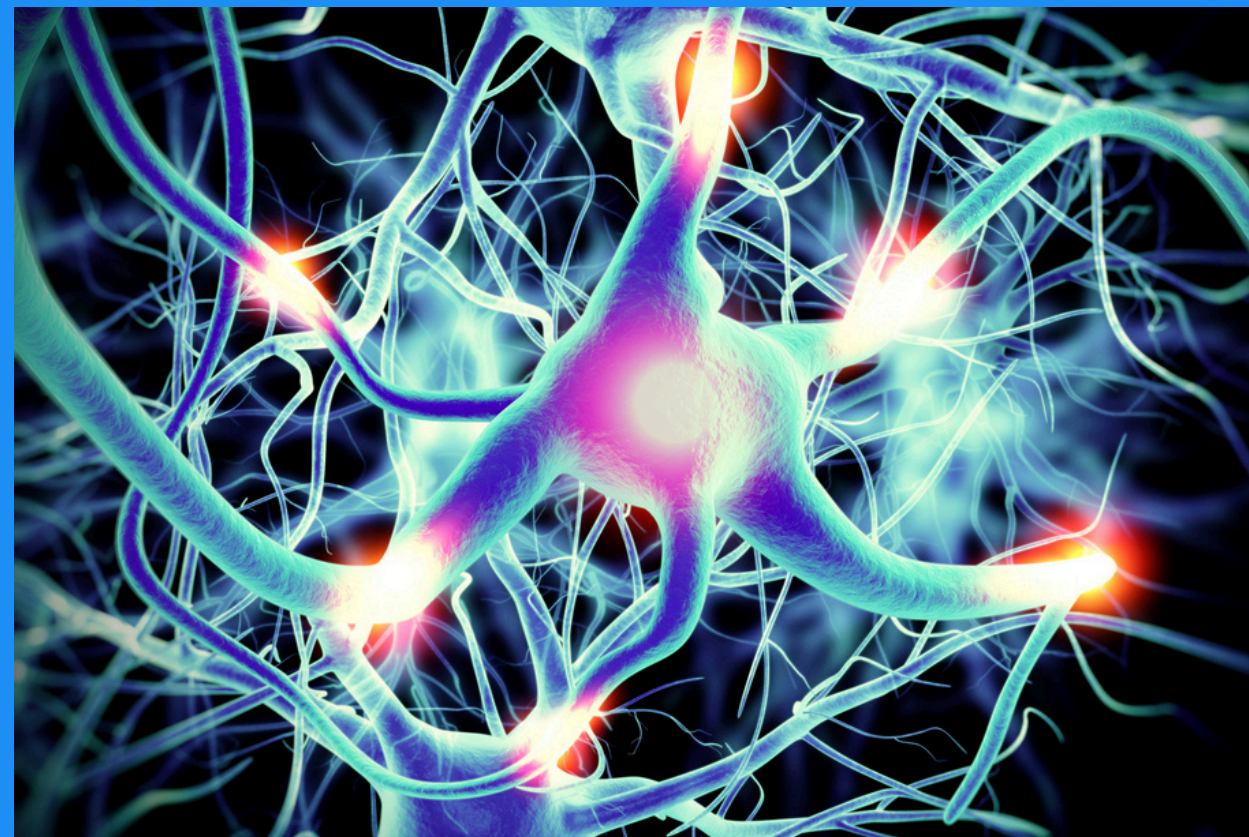
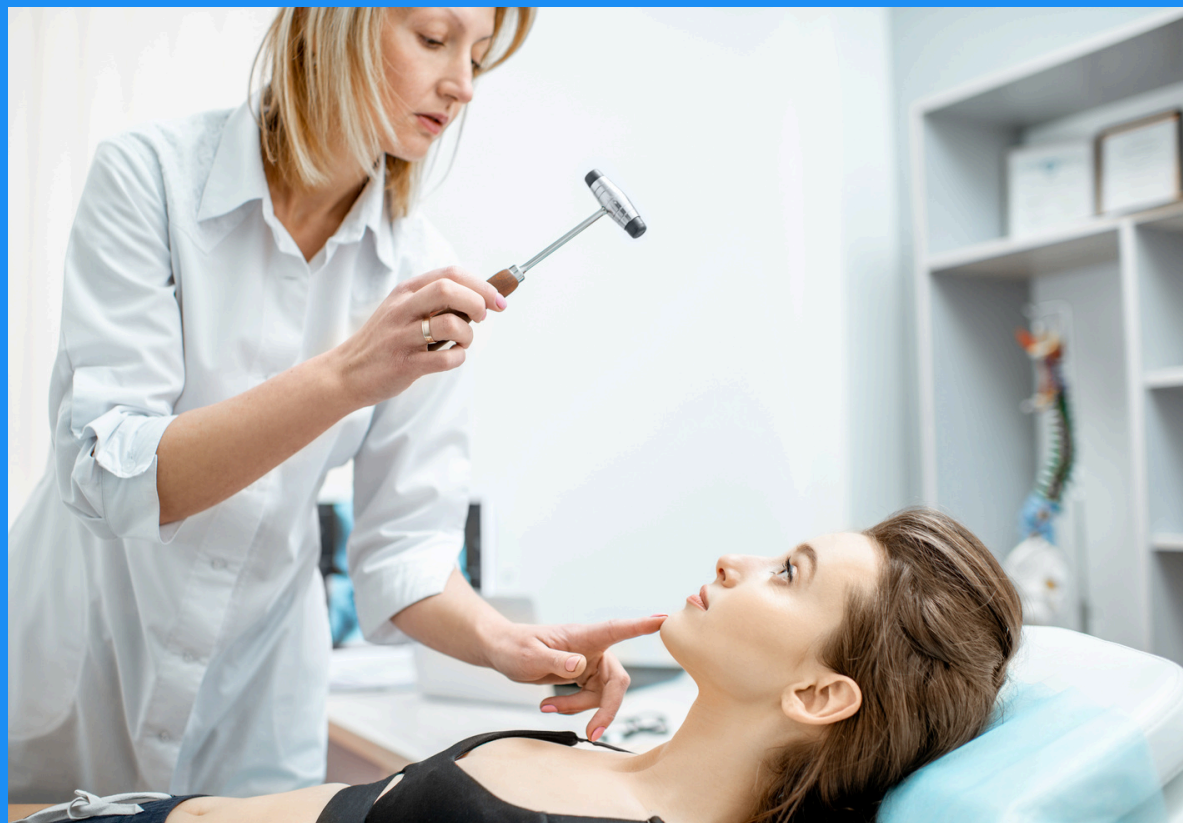
List A	Score	List B	List C
Jacket	01	Finger	Baby
Arrow	01	Penny	Monkey
Pepper	01	Blanket	Perfume
Cotton	01	Lemon	Sunset
Movie	01	Insect	Iron
Dollar	01	Candle	Elbow
Honey	01	Paper	Apple
Mirror	01	Sugar	Carpet
Saddle	01	Sandwich	Saddle
Anchor	01	Wagon	Bubble

Score:

of 10

Record Actual Time (mins) Since Completing Immediate Recall:

Full Neurological Exam





Concussion Assessment Return to Competition

This form is to be used after an athlete is removed from and to returned to competition after exhibiting concussion symptoms. Michigan High School Athletic Association (MHSAA) rules require written authorization from an MD, DO, FNP, or PA before and athlete may return to play after exhibiting concussion symptoms that caused that athlete to be removed for the duration of a contest.

In cases where an assigned MHSAA Tournament physician (MD/DO) is present, his or her decision to not allow a student to return to competition may not be overruled.

Athlete: _____ Event/Sport: _____ Injury Date: _____

Reason for Athlete’s Incapacity:

Test Performed: ☐ SCAT6 ☐ ChildSCAT6 ☐ SCOAT6 ☐ ChildSCOAT6

	Date	Date	Date	Date	Date
Neuro Exam (Normal/Abnormal)					
Symptom Score (of 22)					
Symptom Severity (of 132)					
Orientation (of 5)					
Immediate Memory (of 30)					
Concentration (of 5)					
Delayed Recall (of 10)					
Cognitive Total (of 50)					
mBESS Errors (of 30)					
Tandem Gait (fastest time)					
Dual Task (fastest time)					

I have reviewed the named student-athletes SCAT6; Child-SCAT6; SCOAT6; Child-SCOAT6 scores and determined that the student is cleared to begin BRAIN protocol.

Nurse Practitioner’s Signature

Date

Student has successfully completed BRAIN Protocol.

Athletic Trainer’s Signature

Date

BRAIN Protocol

Completed by the athletic trainers at MyMichigan Rehab Center.



B BIKE

Increase heart rate with sustained effort while keeping the head as still as possible

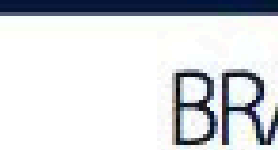
R RUN
Adds simple, repetitive movement

A AGILITY

Adds more explosive movement and asks the brain to do more complex function.

IN RED
Adds usual drills and workout while avoiding all physical contact

N NO RESTRICTIONS
A provider must clear the athlete before this step



BRAIN PROTOCOL

A step-by-step gradual process for return to play

BIKE
Increase heart rate with sustained effort while keeping the head as still as possible.

RUN
Adds simple, repetitive movement.

AGILITY
Adds more explosive movement and asks the brain to do more complex function.

IN RED
Adds usual drills and workout while avoiding all physical contact.

(“In Red” refers to the red jersey players wear to signify that they are NOT to be hit.)

NO RESTRICTIONS
A doctor must clear the athlete before this step.

BIKE	RUN	AGILITY	IN RED	NO RESTRICTIONS
Increase heart rate with sustained effort	Add simple repetitive movement	Add athletic movements and explosive effort	Add mental functions of normal workout/drills. No contact	Add mental functions of normal workout/drills. No contact
Increase heart rate with sustained effort	Add simple repetitive movement	Add athletic movements and explosive effort	Add mental functions of normal workout/drills. No contact	Add mental functions of normal workout/drills. No contact
Increase heart rate with sustained effort	Add simple repetitive movement	Add athletic movements and explosive effort	Add mental functions of normal workout/drills. No contact	Add mental functions of normal workout/drills. No contact
Increase heart rate with sustained effort	Add simple repetitive movement	Add athletic movements and explosive effort	Add mental functions of normal workout/drills. No contact	Add mental functions of normal workout/drills. No contact

NO RESTRICTIONS

Must be cleared by a doctor

- An athlete **cannot start** the protocol until there are no remaining symptoms.
- Athletes 18 years old or younger **must wait at least 24 hours between each step**, without symptoms.
- If the **symptoms return, the protocol MUST stop**. Once ALL symptoms are gone again, the process restarts by repeating the last step completed before symptoms returned.





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Concussion in athletes, 2023



RETURN TO ACTIVITY & POST-CONCUSSION CONSENT FORM

This form is to be used after an athlete is removed from and not returned to activity after exhibiting concussion symptoms. MHSAA rules require 1) Unconditional written authorization from a physician (MD/DO/Physician's Assistant/Nurse Practitioner), and 2) Consent from the student and parent/guardian. Both Sections 1 & 2 of this form must be completed prior to a return to activity. This form must be kept on file at the school and emailed to Concussion@MHSAA.com or faxed to 517-332-4071.

Student: _____ School: _____

Event/Sport: _____ Date of Injury: _____

1. Action of M.D., D.O., Physician's Assistant or Nurse Practitioner

- **The clearance must be in writing and must be unconditional.** It is not sufficient that the M.D., D.O., Physician's Assistant or Nurse Practitioner has approved the student to begin a return-to-activity progression. The medical examiner must approve the student's return to unrestricted activity.
- Individual schools, districts and leagues may have more stringent requirements and protocols including but not limited to mandatory periods of inactivity, screening and post-concussion testing prior to or after the written clearance for return to activity.
- A school or health care facility may use a locally created form for this portion of the return to activity protocol, provided it complies with MHSAA regulations. (See MHSAA Protocol.)

I have examined the above named student-athlete following this episode and determined the following: _____

☐ Permission is granted for the athlete to return to activity (may not return to practice or competition on the same day as the injury).

SIGNATURE (must be MD or DO or PA or NP – circle one)

DATE: _____

Examiner's Name (Printed): _____

2. Post-Concussion Consent from Student and Parent/Guardian.

- I am fully informed concerning, and knowingly and voluntarily consent to, my/my child's immediate return to participation in athletic activities; I understand, appreciate, acknowledge, and assume the risks associated with such return to activity, including but not limited to concussions, and agree to comply with all relevant protocols established by my/my child's school and/or the MHSAA; and I/my child has been evaluated by, and has received written clearance to return to activity from an M.D., D.O., Physician's Assistant or Nurse Practitioner.
- In consideration of my/my child's continued participation in MHSAA-sponsored athletics, I/we do hereby waive any and all claims, suits, losses, actions, or causes of action against the MHSAA, its members, officers, representatives, committee members, employees, agents, attorneys, insurers, volunteers, and affiliates based on any injury to me, my child, or any person, whether because of inherent risk, accident, negligence, or otherwise, during or arising in any way from my/my child's participation in an MHSAA-sponsored sport.
- I/we consent to the disclosure to appropriate persons, consistent with HIPAA and FERPA, of the treating medical examiner's written statement.

Student's Signature (Required): _____ Date: _____

*Parent/Guardian's Name _____ *Parent/Guardian's Signature: _____

**Required if student is less than 18 years of age.*

SEE REVERSE FOR OTHER CONCUSSION RELATED INFORMATION INCLUDING INSURANCE
THIS FORM SHOULD BE KEPT ON FILE AT THE SCHOOL FOR SEVEN YEARS FOLLOWING THE
STUDENT'S HIGH SCHOOL GRADUATION. Print Year of HS Graduation:

Return to Play

Form must be signed by:

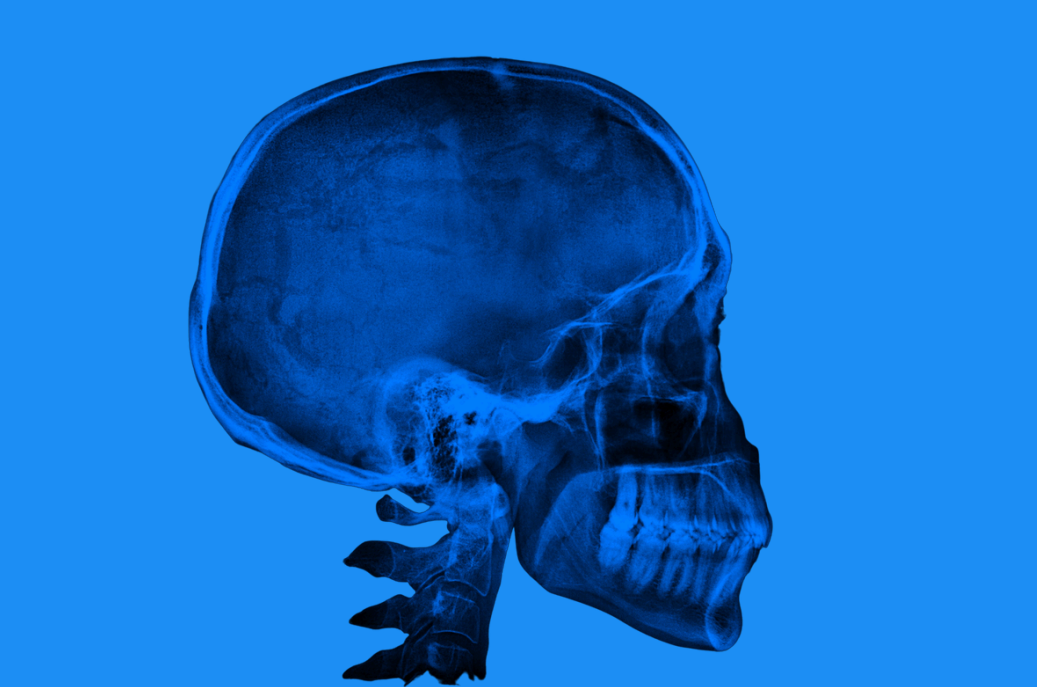
1. Provider (M.D., D.O., NP or PA)

2. Student

3. Parent

4. Form is then presented to the athletic department





Second Impact Syndrome

- Occurs when a second concussion happens before the first has healed.
- Causes the brain to “lose its ability to self-regulate pressure and blood volume flowing” and causes rapid and severe brain swelling.
- While rare, second impact syndrome is often fatal. The mortality rate in confirmed SIS cases is just over 50%, while the probability of permanent disability nears 100%
- The vast majority of cases of SIS occur in high school athletes who play high impact sports. By some estimates, 95% of the those who suffer SIS are children under the age of 18.



Concussion Statistics

- 10% of all contact sport athletes sustain concussions yearly.
- Brain injuries cause more deaths than any other sports injury. In football, brain injuries account for 65% to 95% of all fatalities.
- An athlete who sustains concussion is 4-6 times more likely to sustain a second concussion.
- 1/2 of all concussions go unreported

- For males, the leading cause of high school sports concussion is football; for females the leading cause of high school sports concussion is soccer.



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