



## NORTHERN ATHLETIC DEPARTMENT

### Northern York County School District Athletic Department's Protocol for Management of a Traumatic Brain Injury

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### Protocol for Management of a Traumatic Brain Injury

Northern York County School District's Athletic Department has developed a protocol for the staff to follow in the event of a traumatic brain injury (TBI), a.k.a. concussion, sustained by a student-athlete whether in athletic activity or otherwise. The purpose of this protocol is to educate and minimize the risk and potential injury that can be sustained during athletic activities. As stated by the Center for Disease Control (CDC), *a TBI is caused by a bump, blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain.*<sup>1</sup> Traumatic brain injuries can cause many health and mental problems throughout life, and possible risk of death. The protocol is in place so that we as an Athletic Department, student-athletes, and parents are aware of the severity and consequences that can develop from second-impact syndrome, which is caused by repeated trauma to the brain in a short period of time resulting in catastrophic injuries or even fatal.<sup>1</sup> The Athletic Department has access to the ImPACT test, which can assist the athletic trainer in determining the severity of the TBI and subsequent safe return to activity. A description of the ImPACT test is listed below:

### **ImPACT TESTING**

**What is ImPACT testing?** ImPACT testing is a software program used by the Athletic Training Staff to help determine if your son/daughter has suffered a head injury and when it is safe for an athlete to return to sports participation. The ImPACT test is a 20-minute, computerized test that assesses short and long-term memory, reaction time, mental processing speed, etc. Athletes are required to complete the first test while uninjured to establish a normal, healthy baseline evaluation of mental function. If your son/daughter is suspected of suffering a head injury during the sports season, a second test will be done within 24 hours and the scores of the two tests will be compared to look for deficits in memory, reaction time, processing speed, etc. If deficits are present, the athlete will continue to take ImPACT tests every 48 hours and will possibly need to be evaluated by a physician familiar with ImPACT testing to receive medical clearance to return to sports participation.

**Why is ImPACT testing so important?** This is an essential question when your son daughter is considering athletic participation. Head injuries are very serious and research has shown that athletes tend to hide the signs and symptoms of a head injury because they do not want to be removed from athletic competition. The problem with hiding a head injury is a condition called Second Impact Syndrome. Second Impact Syndrome occurs when an athlete receives a second blow to the head before the initial injury is totally resolved. A second blow has very serious consequences such as permanent brain damage or death. If that isn't scary enough, the force required to cause Second Impact Syndrome is minimal. Research also shows that as a person recovers from a head injury, s/he may physically feel fine long before their brain injury has resolved or mental function has returned to normal. Consequently, using physical symptoms isn't enough to determine if an athlete is safe to return to sports. ImPACT testing gives Athletic Trainers and physicians an objective tool to evaluate mental function and acuity in determining a safe return to sports. At Northern, we take head injuries very seriously and use every method available to ensure our athletes are competing in sports safely following a head injury.

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<sup>1</sup> Courtesy of the CDC

## RECOGNITION

Recognizing a TBI is the very next step in treating a student-athlete behind prevention as the first. The list of signs and symptoms below are divided into three categories to differentiate the variety of signs/symptoms that can result from a traumatic brain injury. (NOTE: for on field evaluations, the SCAT or SCAT-2 may be used to determine the cognitive abilities of the student-athlete.)

An injury to the head resulting in one or more of the following symptoms should be treated as a TBI;<sup>2</sup> •

- Cognitive Signs/Symptoms:
  - Attention difficulties, concentration problems, memory problems, increased symptoms with mental activity, and/or orientation problems.
- Physical Signs/Symptoms:
  - Headache, dizziness, insomnia, fatigue, postural or balance problems, uneven gait, nausea, blurred vision, sensitivity to light or noise, and/or seizures.
- Behavioral Changes:
  - Irritability or more emotional than normal, depression, anxiety, sleep disturbances, problems with emotional control, and/or loss of initiative.

## RETURN-TO-PLAY

A student-athlete is ready to return-to-play from a TBI injury when s/he has been through the six stages listed below. The stages are designed to allow a sufficient amount of time to elapse between each stage for a safe return to activity. At least a 24 hour period is needed between progressions from one stage to the next. If signs/symptoms return at any stage, then the student-athlete needs to stop activity until asymptomatic and return to the previous stage before progression to the next stage may take place.

### Six Stages of Return to Play Criteria:<sup>2,3</sup>

1. A. rest until asymptomatic (physical/mental rest) without medication during regular activities of daily living. When asymptomatic they can retake the ImPACT test. Retaking the ImPACT test too soon may actually increase sign/symptoms or prolong the recovery process due to cognitive stress.  
B. Post-Concussion ImPACT test results are compared with Baseline Scores. If no baseline score is available, then the scores should be at the normative data. Once Baseline Scores or better are reached, the student-athlete may move onto the next stage.
2. Exertional testing which does not exacerbate or return signs/symptoms
3. Sport Specific Exercises and signs/symptoms do not return.
4. Non-Contact Training. (Possibly light resistance training) and signs/symptoms do not return.
5. Full Contact Training and signs/symptoms do not return.
6. Return-To-Play

Attached in Appendix A, , you will find the two factsheets (athlete and parent) provided by the CDC that are issued with the Northern York County School District Physical Packet

Attached in Appendix B, you will find the checklist that the Athletic Training Department will implement in the event of a TBI.

Attached in Appendix C, you will find the information sheet that will be sent home to parents in the event of a TBI to their student-athlete.

It is highly recommended that the if the student athlete has sustained a TBI that s/he does not text, use the computer, watch television, or play video games due to the mental activity needed that may aggravate signs/symptoms.

Additional information regarding traumatic brain injuries, concussions, or the ImPACT test can be retrieved by visiting:

[www.cdc.gov/concussion/HeadsUp/high\\_school.html](http://www.cdc.gov/concussion/HeadsUp/high_school.html)  
[www.ImPACTtest.com](http://www.ImPACTtest.com)

The SCAT card can be found in the Northern York County School District Policy and Procedures manual.

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<sup>2</sup> Courtesy Dickinson College Post-Concussion Return-To-Play Criteria

<sup>3</sup> Courtesy of the Sport Concussion Assessment Tool and SCAT-2

## NORTHERN ATHLETIC DEPARTMENT

Acknowledgement of this protocol is dictated by the signature below, and therefore is to be followed by the person(s) applicable.

_____	Superintendent _____	Date _____
_____	Team Physician _____	Date _____
_____	Athletic Director _____	Date _____
_____	Athletic Trainer _____	Date _____
_____	Athletic Trainer _____	Date _____
_____	Athletic Trainer _____	Date _____

**Appendix A**  
Center for Disease Control  
Athlete and Parent  
Factsheets

# Appendix B

## Traumatic Brain Injury Checklist

Name: \_\_\_\_\_ Grade: \_\_\_\_\_ Sport: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ DOI: \_\_\_\_\_ MOI/Subjective: \_\_\_\_\_

Mechanism of Injury Cont'd: Head/Head: ☐ Head/Ground: ☐ Head/Body Part: ☐ Other: \_\_\_\_\_

Region of head: R/L Front: ☐ R/L Temp: ☐ R/L Parietal: ☐ R/L Occip: ☐

Returned to Play: Y / N Explain: \_\_\_\_\_

Hospitalized: Y / N \_\_\_\_\_ CT/MRI: Y / N \_\_\_\_\_ When: \_\_\_\_\_ Where: \_\_\_\_\_

### Symptoms Checklist:

Headache	<input type="checkbox"/>
Nausea	<input type="checkbox"/>
Balance problems	<input type="checkbox"/>
Dizziness	<input type="checkbox"/>
Fatigue	<input type="checkbox"/>
Trouble falling asleep	<input type="checkbox"/>
Excessive sleep	<input type="checkbox"/>
Drowsiness	<input type="checkbox"/>
Light sensitivity	<input type="checkbox"/>
Noise sensitivity	<input type="checkbox"/>
Irritability	<input type="checkbox"/>

Sadness	<input type="checkbox"/>
Nervousness	<input type="checkbox"/>
More emotional	<input type="checkbox"/>
Numbness	<input type="checkbox"/>
Feeling "slow"	<input type="checkbox"/>
Feeling "foggy"	<input type="checkbox"/>
Difficulty concentrating	<input type="checkbox"/>
Difficulty remembering	<input type="checkbox"/>
Visual problems	<input type="checkbox"/>
Other symptoms:	_____
	_____

PMHx: LOC: Y / N Duration: \_\_\_\_\_

Migraines: \_\_\_\_\_

Headaches: \_\_\_\_\_

LD: i.e. ADHD, ADD, IEP, etc. \_\_\_\_\_

Meds: \_\_\_\_\_

Personality Issues: \_\_\_\_\_

Memory Loss: Pre: Y / N Post: Y / N

Duration: \_\_\_\_\_

Previous TBIs: Y / N

If yes, Date(s): 1. \_\_\_\_/\_\_\_\_/\_\_\_\_

2. \_\_\_\_/\_\_\_\_/\_\_\_\_

3. \_\_\_\_/\_\_\_\_/\_\_\_\_

4. \_\_\_\_/\_\_\_\_/\_\_\_\_

5. \_\_\_\_/\_\_\_\_/\_\_\_\_

Vestibular Testing Convergence: \_\_\_\_\_ Saccades: \_\_\_\_\_ Pursuit: \_\_\_\_\_

Balance assessment: \_\_\_\_\_

Objective Measures: BESS, DHI, etc. or any other on-field evaluation tools: \_\_\_\_\_

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**ASSESSMENT PLAN:**

Parents Notified: Y / N Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

TBI Handout given: Y / N Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Parent's Name(s): \_\_\_\_\_

Parent's Phone: \_\_\_\_\_ (Home / Work / Cell)

Baseline ImPACT Test Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Post-TBI ImPACT Test results and RTP criteria on **TBI Checklist**.

Referral needed: Y / N

If yes, referred Doctor Name: \_\_\_\_\_

Doctor Contact Info:

Phone: \_\_\_\_\_

Organization: \_\_\_\_\_

Athletic Trainer Signature: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

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## CMT - TEACHER CONCUSSION ACADEMIC MONITORING TOOL

The Concussion Management Team would like each teacher to fill out and return this form on a weekly basis to monitor student concussion symptoms in the classroom.

Please return it to your CMT Academic Monitor on this date:

STUDENT:

DATE:

TEACHER:

CLASS:

DATE	CLASSWORK, HOMEWORK, PROJECTS	SCORE/ GRADE	COMMENTS

DATE	TESTS and QUIZZES (if student is not under test or quiz restriction)	SCORE/ GRADE	COMMENTS

Behaviors: Place an X next to any behaviors that this student displayed this past week that were not observed prior to his/her concussion, or are worse than before his/her concussion.

YES		YES		YES	
	Anxious or nervous		Slow to respond to instructions/questions		Disorganized
	Increased irritability		Difficulty concentrating		Explosive behavior
	Easily frustrated or angered		Needed more time to complete work		Problems remembering, forgetful
	Sad or depressed		Less able to cope in stressful situations		Fatigue
	Social isolation, loss of friends, lack of interest in peer group		Impulsive or inappropriate behavior		Light sensitivity
	Headaches		Dizziness or balance issues		Noise sensitivity
	Absences # of Days:		Foggy, spacey, daydreaming		

**ADDITIONAL COMMENTS ABOUT STUDENT:**

## Traumatic Brain Injury (TBI) Evaluation/Checklist

NAME: \_\_\_\_\_ DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_ DOI DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

PARENT NOTIFIED: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

TBI HANDOUT GIVEN: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

BASELINE IMPACT: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

POST-TBI IMPACT: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

SEE: attached results DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

### LEVEL OF RTP CRITERIA:

LEVEL 1: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

LEVEL 2: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

LEVEL 3: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

LEVEL 4: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

LEVEL 5: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

LEVEL 6: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

LEVEL 7: [\_\_\_\_\_] DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

ADDITIONAL COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### SEVEN STAGES OF RETURN TO PLAY CRITERIA:

1. Once a TBI is sustained the student-athlete will take a neurocognitive exam. Once exam is passed and data is comparable to baseline data, the student-athlete may move on to exertional testing.
2. Exertional testing which does not return signs/symptoms
3. Sport Specific Exercises and signs/symptoms do not return
4. Non-Contact Training. (Possibly light resistance training) and signs/symptoms do not return
5. Full Contact Training and signs/symptoms do not return
6. Post Exertional Neurocognitive Testing
7. Return-To-Play

ATHLETIC TRAINER CLEARANCE SIGNATURE: \_\_\_\_\_



# Appendix C

## Parent Notification Sheet

Dear \_\_\_\_\_,

Your son/daughter may have sustained a head injury on \_\_\_\_\_. The information below is to educate you on the severity and what to do with your child's injury. If s/he is experiencing severe signs/symptoms initially listed below, signs/symptoms listed below get worse, or s/he is continuing to experience any of the following symptoms after 72 hours from the injury, it is highly recommended to see a physician regarding the matter.

**Besides the Signs/Symptoms listed below, you should also be aware of the following:** abnormal sleep patterns, increased symptoms with mental activity, fatigue, postural or balance problems, or uneven gait.



A FACT SHEET FOR **PARENTS**

### What is a concussion?

A concussion is a brain injury. Concussions are caused by a bump, blow, or jolt to the head. They can range from mild to severe and can disrupt the way the brain normally works. Even a "ding" or a bump on the head can be serious.

### What are the signs and symptoms?

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or can take days or weeks to appear. If your teen reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

Signs Observed by Parents or Guardians	Symptoms Reported by Athlete
<ul style="list-style-type: none"><li>• Appears dazed or stunned</li><li>• Is confused about assignment</li><li>• Forgets plays</li><li>• Is unsure of game, score, or opponent</li><li>• Moves clumsily</li><li>• Answers questions slowly</li><li>• Loses consciousness</li><li>• Shows behavior or personality changes</li><li>• Can't recall events prior to hit</li><li>• Can't recall events after hit</li></ul>	<ul style="list-style-type: none"><li>• Headache</li><li>• Nausea</li><li>• Balance problems or dizziness</li><li>• Double or fuzzy vision</li><li>• Sensitivity to light or noise</li><li>• Feeling sluggish</li><li>• Feeling foggy or groggy</li><li>• Concentration or memory problems</li><li>• Confusion</li></ul>

### What should you do if you think your teenage athlete has a concussion?

1. **Seek medical attention right away.** A health care professional will be able to decide how serious the concussion is and when it is safe for your teen to return to sports.
2. **Keep your teen out of play.** Concussions take time to heal. Don't let your teen return to play until a health care professional says it's OK. Athletes who return to play too soon—while the brain is still healing—risk a greater chance of having a second concussion. Second or later concussions can be very serious. They can cause permanent brain damage, affecting your teen for a lifetime.
3. **Tell all of your teen's coaches about any recent concussion.** Coaches should know if your teen had a recent concussion in ANY sport. Your teen's coaches may not know about a concussion your teen received in another sport or activity unless you tell them. Knowing about the concussion will allow the coach to keep your teen from activities that could result in another concussion.
4. **Remind your teen:** It's better to miss one game than the whole season.

**It's better to miss one game than the whole season.**