

# Maine East High School Athletic Concussion Protocol

As new medical information is disseminated, we at Maine East High School are ever evolving our safety procedures to create a safer environment for all students to be active. In an effort to maintain the health and safety of our student athletes, Maine East and several other Central Suburban League and Chicago area schools have adopted new protocols for diagnosing concussions and monitoring student progress towards recovery. The following protocol reflects current best practices and recommendations as outlined by the Consensus Statement on Concussion in Sport, the 3<sup>rd</sup> International Conference on Concussion in Sport, the National Federation of High Schools, and the Illinois High School Association.

## **Concussion – definition**

A complex pathophysiological process affecting the brain induced by traumatic biomechanical forces. Several common features that incorporate clinical, pathologic and biomechanical injury constructs that may be utilized in defining the nature of a concussive head injury include:

## **Concussion – causes**

Concussion may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an “impulsive” force transmitted to the head. Concussions typically result in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously. Concussions may result in neurologic changes, but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury. Concussion results in a graded set of clinical symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course. It is important to note that, in a small percentage of cases, post concussion symptoms may be prolonged. No abnormality on standard structural neuroimaging studies have been seen in concussion.

## **Concussion – signs and symptoms**

A diagnosis of a concussion can include one or more of the following clinical domains:

- Somatic – headache
- Cognitive – feeling in a fog
- Emotional – mood changes and emotional changes
- Physical signs – loss of consciousness, amnesia, etc.
- Behavioral changes – irritability
- Cognitive impairment – slowed reaction times
- Sleep disturbances – drowsiness

If head contact and/or one or more of the signs and symptoms from above are observed, the following concussion management protocol will be initiated.

## **The ImPACT Test – Immediate Post-concussion Assessment and Cognitive Test**

All athletes that compete in a collision and/or selected contact sports will complete an ImPACT neurocognitive test as a baseline. Athletes who suffer a concussion must pass the ImPACT test (return to his or her baseline score), be symptom free and complete the six-step Return-to-Play Program to be allowed to return to full practices and competition.

- The results are subjective to each athlete and will be shared only with the athlete, parent/guardian, medical physician or other persons receiving prior approval from parent/guardian. There is no universal baseline score.
- Athletes who have prescribed medications should have all daily dosages finished before taking the ImPACT Baseline Test.
- Parents/guardians can elect to include their medical physician before the ImPACT tests are given.
- The ImPACT Test will be given to athletes in their freshmen and junior years.

Should an athlete be suspected or diagnosed with a concussion by the ATC, school RN, or family doctor, the following protocol will be followed to insure the health and well being of the student athlete:

### **Responsibilities of the Athletic Trainer (ATC)**

Onset of Injury (first three days)

#### *Written Documentation:*

All documentation should include etiology of the injury, observed signs and symptoms, actions taken and time/date of the injury. If ATC initiates treatment of injury, a concussion evaluation form must be completed. All information can be submitted via the Maine East accident form. Forms can be found in the main office, athletic director office, or the athletic training room. Completed forms can be returned to the athletic trainer (ATC), school registered nurse (RN), or athletic director. All written documentation from an MD will be delivered to the school RN, with copies given to the ATC and athlete's counselor.

#### *Communication of Injury:*

- 1) If the emergency medical system (EMS) was activated and your contest is home, the coach must contact the administrator on duty and an ATC.
- 2) If the EMS was activated and your contest is away, you should contact an ATC.
- 3) The professional in charge (ATC, coach, AD, etc.) at the time of the injury must contact the athlete's parent/guardian and inform them of the condition/status of the athlete and the ImPACT protocol.
- 4) **All suspected concussed students MUST be evaluated by a medical doctor and said doctor informed of the ImPACT protocol used by Maine East High School by the parent.** Maine East staff will be available to answer any questions of the attending medical doctor and to share the ImPACT testing results. Students cannot return to the field of play or full classroom participation without the written consent of the attending medical doctor.
- 5) Once notified of injury, the ATC will notify via e-mail the school RN, Athletic Director, and the athlete's counselor.
- 6) The school RN and/or athlete's counselor will forward any pertinent information to the athlete's PE instructor and other teachers outlining what the classroom teacher should be aware of, to

excuse the athlete from physical education, and grant him or her other accommodations until he or she passes the ImPACT Test and is released by a medical doctor.

- a. Accommodations may include but are not limited to: allowing for alternative or make-up assignments, postponement of projects, tests, and quizzes, extended time on projects, tests, and quizzes.
- b. The school RN and/or athlete's counselor may make recommendations to include other school personnel in the recovery process such as a school social worker or school psychologist as the team deems appropriate to each athlete's individual circumstances.

A suspected concussed athlete should be under consistent observation until the ATC or the professional in charge personally releases the athlete to the care of a parent/guardian, a parent approved adult, or approved medical personnel. The ATC and the athlete should maintain daily communication via the phone, e-mail, or in person until the initial ImPACT Post Test is completed (72 hours).

### **Responsibilities of the Athletic Trainer (ATC)**

ImPACT Post-test – 72 hours from diagnosis of the concussion onset of head injury.

All diagnosed concussed student/athletes need:

- 1) To pass the ImPACT Post Test.
- 2) Have a medical doctor note on file, clearing them for activity.
- 3) Must complete the Post-Concussion Return-to-Play Program.

Maine East does not recognize a doctor's clearance as a guarantor of an athlete returning to full contact without completing the prescribed Return-to-Play Program. All dosing of prescribed medications should be completed before post test begins.

- 1) If athlete fails the ImPACT Post-test and are asymptomatic or symptomatic, they will not be allowed any physical activity.
- 2) If the athlete passes the ImPACT Post-test and are asymptomatic, they will begin the post-concussion Return-to-Play Program (see below). Maine East does not recognize a doctor's clearance as a guarantor of an athlete returning to full contact without completing the prescribed Return-to-Play Program.
- 3) If the athlete passes the ImPACT Post-test and are symptomatic, they will be referred to a medical physician for further evaluation. Maine East will require clearance from a medical doctor to return to full practices and competition. This doctor's clearance will trigger the Return-to-Play Program. Maine East does not recognize a doctor's clearance as a guarantor of an athlete returning to full contact without completing the prescribed Return-to-Play Program.

*If the athlete's ImPACT Post-test results indicate scenario 1 or 2 from above, they will need to complete a second ImPACT Post-test after 72 hours of physical and cognitive rest. ImPACT testing will continue until an athlete passes an ImPACT Post-test or reverts to the sole care of a medical doctor.*

The following procedures will be completed after each ImPACT Post-test:

- 1) ATC will communicate status of the athlete via e-mail or phone with the student's physician, the school RN, athlete's coach, and the athlete's counselor.
- 2) ATC will communicate athlete status by phone to the parent/guardian.

- 3) The school RN and/or athlete's counselor will forward any pertinent information to the athlete's PE instructor and other teachers outlining what the classroom teacher should be aware of and to excuse the athlete from physical education and grant him or her other accommodations until he or she passes the ImpACT Test.
  - a. Accommodations may include but are not limited to: allowing for alternative or make-up assignments, postponement of projects, tests, and quizzes, extended time on projects, tests, and quizzes.
  - b. The school RN and/or athlete's counselor may make recommendations to include other school personnel in the recovery process such as a school social worker or school psychologist as the team deems appropriate to each athlete's individual circumstances.

It is important and the expectation of Maine East High School Athletes for the athlete's coach to maintain communication with the athlete for emotional support throughout the diagnosis and recovery period of any injury.

Post-Concussion Return-to-Play Program (McCrorry, 2009)

- 1) Once cleared to initiate the following steps by an approved medical provider (MD and ATC), the athlete must complete each assigned activity without becoming symptomatic for a period of 24 hours.
- 2) The athlete will report any symptoms immediately after the assigned activity to the ATC.
- 3) The athlete will again report any symptoms 24 hours after assigned activity has been completed.
- 4) The athlete must be asymptomatic for the entire 24 hour period to be allowed to progress to the next step.
- 5) If symptomatic at any time the athlete will be referred to a medical doctor for evaluation.

Rehabilitation Stage	Functional Exercise at Each Stage of Rehabilitation	Objective of Each Stage
1. No activity	Complete physical and cognitive rest	Recovery
2. Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity <70% MPRH; no resistance training	Increase HR
3. Sport-specific exercise	Skating drills in ice hockey, running drills in soccer; no head impact activities	Add movement
4. Non-contact training drills	Progression to more complex training drills, eg, passing drills in football and ice hockey; may start progressive resistance training	Exercise, coordination, and cognitive load
5. Full contact practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6. Return to play	Normal game play	

**Return to Play:**

- 1) Once the athlete completes the Post-concussion Return-to-Play Program without symptoms and has clearance from an approved medical doctor, they will be allowed to return to full activity.

- 2) ATC will communicate status of the athlete via e-mail or phone with the student's physician, the school RN, athlete's coach, and the athlete's counselor.
- 3) ATC will communicate athlete status by phone to the parent/guardian.
- 4) The school RN and/or athlete's counselor will forward any pertinent information to the athlete's PE instructor and other teachers.
- 5) The ATC will notify any future coaches of athlete's prior concussion for one full academic year.

**Education:**

- The ATC will create a document to educate parents of athletes, whom will be completing the ImPACT Test, on concussions and neurocognitive testing.
- The ATC will create a handout to be given to parents of concussed athletes discussing home treatment "do's and don'ts" of concussions.
- The ATC will appear at each pre-season athletic team meeting to discuss ImPACT protocols with parents.
- The ATC will discuss the ImPACT test protocol and what is a concussion with all students before the test is initiated.
- The ATC will meet with all team coaches to discuss the ImPACT process and the signs and symptoms of a concussion.
- The ATC will discuss concussions and the ImPACT test protocol with all affected personnel.