

The William Floyd School District

Concussion Assessment, Management, and Return to Play Guidelines

The following policy and procedures on neurocognitive baseline testing and subsequent assessment and management of concussions as well as return to play guidelines has been developed in accordance with the Athletic Training Department of William Floyd to provide quality healthcare services and assure the well-being of each student-athlete.

PURPOSE:

The William Floyd Sports Medicine program recognizes that sport induced concussions pose a significant health risk for those student-athletes participating in athletics. With this in mind, the certified athletic trainer has implemented policies and procedures to assess and identify those student-athletes who have suffered a concussion. The Department also recognizes that baseline neurocognitive testing on student-athletes who participate in those sports which have been identified as collision and or contact sports and/or who have had a history of concussions will provide significant data for return to competition decisions. This baseline data along with physical examination, and/or further diagnostic testing will be used in conjunction in determining when it is safe for a student athlete to return to competition.

This protocol will be reviewed on a yearly basis, by the Wm. Floyd medical staff. Any changes or modifications will be reviewed and given to athletic department staff and appropriate school personnel in writing.

All athletic department staff will attend a yearly in-service meeting in which procedures for managing sports-related concussion are discussed. In addition to this course, there will be a biennial NYSPHSAA approved course given to certify all school coaches, nurses, physical education teachers and athletic trainer as outlined in NYS Education Law 305(42)(a)(ii).

THE CONCUSSION MANAGEMENT TEAM (CMT)

The William Floyd School Districts CMT is composed of certified athletic trainer, Jason McKay; school physician, Dr. Shah; athletic director, Mark Mensch; District lead nurse, Jacki O'Donnell; and Board approved concussion management specialists at Orthopedic Associates of L.I. & St. Charles concussion clinic as well as additional consultants as deemed necessary.

CONCUSSION DEFINITION:

Violent shaking or jarring action to brain, that may or **may not** result of impact with an object or ground. This results in immediate partial or complete impairment of neurological function.

The American Academy of Neurology (AAN) defines concussion as "any trauma induced alteration in mental status that may or may not include a loss of consciousness".

SIGNS AND SYMPTOMS OF CONCUSSION:

The CMT and coaching staff all need to be aware of the signs and symptoms of concussion to properly recognize and intervene on behalf of the student-athlete.

Physical Symptoms	Cognitive Symptoms	Emotional Symptoms
Headache Vision Difficulty Nausea, Vomiting	Memory Loss Feeling "slowed down" Feeling "out of it"	Irritability Sadness Nervousness

Dizziness, off-balance Neck Pain Light/sound sensitivity Fatigue, Lack of Energy Ringing in ears	Attention Disorders Reasoning difficulty Loss of appetite Difficulty concentrating	Anxious Sleep Disturbances Mood Changes
--	---	---

A. Common signs and symptoms of sports-related concussion

1. Signs (observed by others):

- Athlete appears dazed or stunned
- Confusion (about assignment, plays, etc.)
- Forgets plays
- Unsure about game, score, opponent
- Moves clumsily (altered coordination)
- Balance problems
- Personality change
- Responds slowly to questions
- Forgets events prior to hit
- Forgets events after the hit
- Loss of consciousness (any duration)

2. Symptoms (reported by athlete):

- Headache
- Fatigue
- Nausea or vomiting
- Double vision, blurry vision
- Sensitive to light or noise
- Feels sluggish
- Feels "foggy"
- Problems concentrating
- Problems remembering

BASELINE ASSESSMENT

1. ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing) is a research-based software tool utilized to evaluate recovery after concussion. It was developed at the University of Pittsburgh Medical Center (UPMC). ImPACT evaluates multiple aspects of neurocognitive function, including memory, attention, brain processing speed, reaction time, and post-concussion symptoms.
 - a. Neuropsychological testing is utilized to help determine recovery after concussion.
2. All collision/contact-sport athletes at Wm. Floyd High School will take a baseline ImPACT test prior to participation in sports at WFHS (usually freshman year).
 - a. Athletes will have the opportunity to view a video presentation entitled: "Heads Up: Concussion in High School Sports"
3. Athletes in collision and contact sports (as defined by the Academy of Pediatrics classifications) will take a "new" baseline test prior to participation their junior year. The sports which are categorized as high risk contact and collision sports are as follows.

Basketball Baseball Cheerleading
Swimming Field Hockey Football
Gymnastics Lacrosse Pole Vaulters
Soccer Softball Wrestling

CONCUSSION MANAGEMENT

PROCEDURES FOR ALL COACHING STAFF

1. Any athlete with a witnessed loss of consciousness (LOC) of any duration should be spine boarded and transported immediately to nearest emergency department via emergency vehicle.
2. Any athlete who has symptoms of a concussion, and who is not stable (i.e., condition is changing or deteriorating), is to be transported immediately to the nearest emergency department via emergency vehicle.
3. An athlete who exhibits any of the following symptoms should be transported immediately to the nearest emergency department, via emergency vehicle.
 - a. deterioration of neurological function
 - b. decreasing level of consciousness
 - c. decrease or irregularity in respirations
 - d. decrease or irregularity in pulse
 - e. unequal, dilated, or unreactive pupils
 - f. any signs or symptoms of associated injuries, spine or skull fracture, or bleeding
 - g. mental status changes: lethargy, difficulty maintaining arousal, confusion or agitation
 - h. seizure activity
 - i. cranial nerve deficits
4. An athlete who is symptomatic but stable, may be transported by his or her parents. The parents should be advised to contact the athlete's primary care physician, or seek care at the nearest emergency department, on the day of the injury.
 - a. ALWAYS give parents the option of emergency transportation, even if you do not feel it is necessary.

PROCEDURES FOR THE CERTIFIED ATHLETIC TRAINER (AT)

- A. The AT will assess the injury, or provide guidance to the coach if unable to personally attend to the athlete.
 - Immediate referral to the athlete's primary care physician or to the hospital will be made when medically appropriate.
 - The AT will perform serial assessments following recommendations in the NATA Statement², and utilize the SCAT (Sport Concussion Assessment Tool), as recommended by the Prague Statement¹, or sideline ImpACT, if available.
 - The Athletic Trainer will notify the athlete's parents and give written and verbal home and follow-up care instructions.
- B. The AT will notify the school nurse of the injury, so that the school RN can initiate appropriate follow-up in school immediately upon the athlete's return to school (including physician orders pertaining to school work and/or physical education).
 1. The AT will continue to provide coordinated care with the school RN, for the duration of the injury.
 2. The AT or RN will communicate with the athlete's guidance counselor regarding the athlete's neurocognitive and recovery status, if needed.
- C. The AT is responsible for administering post-concussion ImpACT testing.

1. The initial post-concussion test will be administered within 48-72 hours post-injury, whenever possible.
 - a. Repeat post-concussion tests will be given at appropriate intervals, dependent upon clinical presentation.
2. The AT will review post-concussion test data with the athlete and the athlete's parent.
 - a. ImPACT data will be forwarded to the school medical advisor for review and consultation.
3. The AT will forward testing results to the athlete's treating physician, with parental permission and a signed release of information form.
4. The AT or the athlete's parent may request that a neuropsychological consultant review the test data. The athlete's parents will be responsible for charges associated with the consultation, if any.
5. The AT will monitor the athlete, and keep the School Nurse informed of the individual's symptomatology and neurocognitive status, for the purposes of developing or modifying an appropriate health care plan for the student-athlete.
6. The AT is responsible for monitoring recovery & coordinating the appropriate return to play activity progression.
7. The AT will maintain appropriate documentation regarding assessment and management of the injury.

GUIDELINES AND PROCEDURES FOR COACHES:

RECOGNIZE, REMOVE, REFER

A. **Recognize** concussion

1. All coaches should become familiar with the signs and symptoms of concussion that are described above.
2. Very basic cognitive testing should be performed to determine cognitive deficits.

B. **Remove** from activity

1. If a coach suspects the athlete has sustained a concussion, the athlete should be removed from activity until evaluated medically.
 - Any athlete who exhibits signs or symptoms of a concussion should be removed immediately, assessed, and will not be allowed to return to activity that day.

C. **Refer** the athlete for medical evaluation

1. Coaches should report all head injuries to the WFHS Certified Athletic Trainer (AT), as soon as possible, for medical assessment and management, and for coordination of home instructions and follow-up care.
 - a. The AT can be reached at: 874-1731 (office) .
 - b. The AT will be responsible for contacting the athlete's parents and providing follow-up instructions.
2. Coaches should seek assistance from the host site AT if at an away contest.
3. If the WFHS AT is unavailable, or the athlete is injured at an away event, the coach is responsible for notifying the athlete's parents of the injury.
 - a. Contact the parents to inform them of the injury and make arrangements for them to pick the athlete up at school.

- b. Contact the AT at the above number, with the athlete's name and home phone number, so that follow-up can be initiated.
 - c. Remind the athlete to report directly to the school nurse before school starts, on the day he or she returns to school after the injury.
4. In the event that an athlete's parents cannot be reached, and the athlete is able to be sent home (rather than directly to MD):
 - a. The Coach or AT should insure that the athlete will be with a responsible individual, who is capable of monitoring the athlete and understanding the home care instructions, before allowing the athlete to go home.
 - b. The Coach or AT should continue efforts to reach the parent.
 - c. If there is any question about the status of the athlete, or if the athlete is not able to be monitored appropriately, the athlete should be referred to the emergency department for evaluation. A coach or AT should accompany the athlete and remain with the athlete until the parents arrive.
 - d. Athletes with suspected head injuries should not be permitted to drive home.

SIDELINE MANAGEMENT OF CONCUSSIONS

The Athletic Trainer will recognize that it may not be possible for neurocognitive testing to take place within a 24 hour time frame due to travel and other difficulties. Many times, the AT will purposely wait to perform the neurocognitive testing until 48-72 hours after the incident to see the full potential of the effects. With that in mind, it is necessary to plan for neurocognitive testing as soon as possible for the student-athlete, when they return to school and for an evaluation with the team physician or specialist.

Student-athletes are prohibited from returning to play the day the concussion is suspected. If there is any doubt as to whether a student has sustained a concussion, it should be treated as a concussion!

RECOVERY:

Recovery times vary from one person to the next. Variables of recovery time include many factors including severity, what part of the brain was injured, age, fitness level prior to injury as well as others.

Rest is essential after suffering a concussion since it is the only way the brain can begin to heal. It is vital to avoid doing anything that may cause any strenuous exertion or placing individual in a position that would make them susceptible to another blow to the head.

Other tips for healing include:

- Get plenty of sleep at night and rest during the day
- Take only medications approved by your doctor
- Avoid activities that could predispose individual to a second injury until cleared
- Return to activities gradually as per MD's orders and school protocol

RETURN TO PLAY (RTP) GUIDELINES:

It is important to understand that each head injury is different. Therefore, utilization of varying tools, such as ImPact, in conjunction with a concussion management physician's evaluation and certified athletic trainer will be imperative factors as to the treatment for that individual.

Neurocognitive testing will be scheduled for 24 hours post initial injury and then subsequently every 48 hours, until the student-athlete scores at their baseline level, or an equivalent that is acceptable by team physician.

Continued post-concussive symptoms, prior concussion history and any diagnostic testing results along with neurocognitive testing and physical exam, will be utilized by the team physician in establishing a timeline for an athletes return to activity. It is important to note that this timeline could last over a period of days to weeks or months, or potential medical disqualification athletics. All cases will be handled on a case-by-case basis. The decision by a Chief Medical Officer for all cases of an athletes return to activity is final.

- A. Returning to participate on the same day of injury
 1. As previously discussed in this document, an athlete who exhibits signs or symptoms of concussion, or has abnormal cognitive testing, will not be permitted to return to play on the day of the injury. Any athlete who denies symptoms but has abnormal sideline cognitive testing should be held out of activity.
 2. "When in doubt, hold them out."

- B. Return to play procedures after concussion may only be provided by the athletic trainer after the physician's approval.
 1. The athlete must meet all of the following criteria in order to progress to activity:
 - a. Asymptomatic at rest **and** with exertion (including mental exertion in school)
AND:
 - b. Within normal range of baseline on post-concussion ImpACT testing **AND:**
 - c. Have written clearance from primary care physician or specialist (athlete must be cleared for progression to activity by a physician **other than an Emergency Room physician**).

 2. Once the above criteria are met, the athlete will be progressed back to full activity following a stepwise process, under the supervision of the AT.

 3. Progression is individualized, and will be determined on a case by case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport should be progressed more slowly.

 4. Stepwise progression as described in the Prague Statement:
 - a) No activity – do not progress to step 2 until asymptomatic
 - b) Light aerobic exercise – walking, stationary bike
 - c) Sport-specific training (e.g., skating in hockey, running in soccer)
 - d) Non-contact training drills
 - e) Full-contact training after medical clearance
 - f) Game play

 - Note: If the athlete experiences post-concussion symptoms during any phase, the athlete should drop back to the previous asymptomatic level and resume the progression after 24 hours.

 5. The AT and athlete will discuss appropriate activities for the day. The athlete will be given verbal and written instructions regarding permitted activities. The AT and athlete will each sign these instructions. One copy of this form is for the athlete to give to the coach, and one will be maintained by the AT.

6. The athlete should see the AT daily for re-assessment and instructions until he, or she, has progressed to unrestricted activity, and been given a written report to that effect, from the AT.

RISKS & COMORBIDITIES:

Second Impact Syndrome- A potentially fatal condition whereas an individual suffers a second head injury prior to being asymptomatic after the first head injury.

Subdural Hemorrhage- A rare condition that has a high mortality rate is when a blood clot forms in the brain after suffering a head injury.

Post-Concussion Syndrome (PCS)- A condition where the individual suffers from mental status changes (ADHD, Depression, changes in memory, tiredness, difficulty sleeping or Mood Disorders) and/or other symptoms (headaches, dizziness, blurred vision, light/noise sensitivity, etc) associated with a concussion that may last for weeks or months or sometimes longer. (Typical PCS begins within 72 hours after suffering a concussion).

Danger Signs: If the individual begins to exhibit any of the following, it is imperative to get emergency medical treatment immediately:

- Headaches that worsen
- Weakness, numbness or decreased coordination (Stroke-like signs & symptoms)
- Repeated vomiting
- Individual cannot be awakened
- Presents with one pupil larger than the other
- Seizures or convulsions
- Slurred speech
- Clear fluid or bleeding from ears and/or nose
- Symptoms deteriorate with time

SUMMARY:

We are committed to providing quality health care services for all student-athletes. As such, the Athletic Training department is very proactive in the assessment and management of concussions. To do so limits the risks of concussions associated with athletics, and the potential catastrophic and long-term complications from said concussions.

Please note these considerations are established to obtain and maintain the student-athlete's safety and health. As we approach the advancing computerized testing standards, the procedures set forth for such will supersede and may void this policy.

¹ McCrory P, et al. Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004. *Clin J Sports Med.* 2005; 15(2):48-55.

² Guskiewicz KM, et al. National Athletic Trainers' Association Position Statement: Management of Sport-Related Concussion. *J Athl Train.* 2004;39(3):280-297.