

## Fort Bend ISD Athletic Department Guidelines for Concussion Management

### Introduction

Approximately 10 percent of all athletes involved in contact sports suffer a Mild Traumatic Brain Injury (MTBI; concussion) each season; some estimates are as high as 19 percent. Because many mild concussions can go undiagnosed and unreported, it is difficult to precisely estimate the rate of concussion in any sport.

Symptoms are not always definite, and knowing when it is safe for an athlete to return to play is not always clear. The recognition and management of concussions in athletes can be difficult for several reasons; due to the wide variety of different symptoms that may present with this injury. Although the classic symptoms (i.e. loss of consciousness, confusion, and memory loss and/or balance problems) may be present in some athletes with mild traumatic brain injury; at times there may not be obvious signs that a concussion has occurred.

Post-concussion symptoms can be quite subtle and may go unnoticed by the athlete, team medical staff, or coaches. Many coaches and other team personnel may have limited training in recognizing signs of concussion and therefore may not accurately diagnose the injury when it has occurred. Players may be reluctant to report concussive symptoms for fear that they will be removed from the game, and this may jeopardize their status on the team or their athletic careers.

Fort Bend ISD is in compliance with HB 2038, 82(R). A student removed from an athletic practice or competition will not be permitted to practice or compete again until the student has been evaluated and cleared to play through a school-issued written statement by the treating physician. The student's parent/guardian as well as the student must return the physician's statement and complete a consent form indicating that they have been informed and consent to the policies established under the return-to-sport protocol, understand the risks associated with the student's returning to play and comply with any ongoing requirements outlined by the concussion policy. The student and parent/guardian must consent to the physician's disclosure of health information that is related to the concussion treatments and understand the district or school's immunity from liability provisions.

### Concussion Oversight Team (COT):

According to TEC Section 38.153: *The governing body of each school district and open-enrollment charter school with students enrolled who participate in an interscholastic athletic activity shall appoint or approve a concussion oversight team.*

### The Fort Bend ISD Concussion Oversight Team includes:

Aimee Williams M.Ed, LAT, ATC – Athletic Trainer  
Bryant Spencer MBA, LAT, ATC – Athletic Trainer  
Essence Ephran LAT, ATC – Athletic Trainer  
Bianca Allen, LAT – Athletic Trainer  
Jasmine DeBose, DAT, MSAT, LAT, ATC- Athletic Trainer  
Jay Jones, MSE, LAT, ATC, CSCS – Athletic Trainer  
Jeff Arceneaux LAT, ATC- Athletic Trainer  
June Tomlin M.Ed, LAT, ATC – Athletic Trainer  
Kara Sylvester M.Ed, LAT, ATC – Athletic Trainer  
Mark Moffett, LAT, ATC – Athletic Trainer

Michelle Hiett LAT, ATC – Athletic Trainer  
Nia LeBlanc MS, LAT, ATC– Athletic Trainer  
Courtney Scott MAT, LAT, ATC- Athletic Trainer  
All Assistant Athletic Trainers & Residents for Fort Bend ISD  
Nader Ayub DO – Houston Methodist Orthopedics  
David Braunreiter MD–Team Physician  
Nish Shah MD- Houston Methodist Orthopedics  
Chris Shaddock, LAT, ATC – Houston Methodist  
Daniel Cook LAT, ATC – Houston Methodist

### **Concussion or Mild Traumatic Brain Injury (MTBI)**

A concussion is a type of mild traumatic brain injury that interferes with normal function of the brain. A concussion is caused by a bump, blow, or jolt to the head or body causing a metabolic disturbance of brain functioning. Any force that is transmitted to the head causes the brain to literally move or twist within the skull, potentially resulting in a concussion. It is a multisystem injury that affects the brain, cervical spine, vestibular, ocular motor, and autonomic nervous systems. It can cause blood flow changes, biochemical changes, structural changes, inflammation, neuronal injury, endocrine changes, and an emotional disturbance. What may appear to be only a mild jolt or blow to the head or body can result in a concussion. Any suspected concussion should be taken seriously and be evaluated and treated. This injury causes brain function to change which results in an altered mental state (either temporary or prolonged). Physiologic and/or anatomic disruptions of connections between some nerve cells in the brain occur. Symptoms include, but are not limited to, headache, amnesia, nausea, dizziness, confusion, blurred vision, ringing in the ears, loss of balance, moodiness, poor concentration or mentally slow, lethargy, photosensitivity, sensitivity to noise and a change in sleeping patterns. Symptoms can also include a loss of consciousness, which only occurs in 5-10% with concussions; thus, it is enough to cause, but not necessary to have, a concussion. Concussions can have serious and long-term health effects. Once this injury occurs, the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

### **Second Impact Syndrome**

Second Impact Syndrome (SIS) refers to catastrophic brain events which may occur when a second concussion occurs while the athlete is still symptomatic and healing from a previous concussion. The second injury may occur within days or weeks following the first injury. Loss of consciousness is not required. The second impact causes brain swelling leading to other widespread damage to the brain. SIS is very rare but can be fatal. Most often SIS occurs when an athlete returns to activity without being symptom-free from the previous concussion. This is why recognition of a concussion is imperative.

### **Recognition of Concussion in the Athlete**

Most athletes are at a higher risk of suffering a concussion. The rate of concussion varies between sports with the highest rate being about 20% in collision sports such as football. Many concussions can go undiagnosed and unreported, so it is difficult to estimate the rate of concussion in any sport. Symptoms are not always clear-cut or the same and knowing when it is safe for an athlete to return to sport is not always clear. A student-athlete shall be removed from practice or competition immediately if one of the following suspects that the student-athlete might have sustained a concussion:

- Athlete's Coach
- Parent/Guardian
- Licensed Health Care Professional

### **Initial Evaluation of Suspected Concussion**

The student-athlete will be immediately removed from practice or competition if he/she is exhibiting any signs or symptoms of the concussion. At this point, a clinical evaluation by a trained healthcare profession will be performed to determine the presence of a more serious injury as C-spine injury, neurological deficits, skull fracture, intracranial bleeding, and catastrophic injury. The immediate sideline evaluation should be based on injury recognition signs ( e.g., gross motor instability, confusion, LOC), assessment of symptoms, cognitive and cranial nerve function, and balance.

- **Sport Concussion Assessment Tool 2023 (SCAT 6) – Healthcare Professional-** The SCAT 6 Immediate Assessment will be administered to the student-athlete at the time of a suspected concussion. Follow-up testing and evaluation of the student-athlete using the SCAT 6 Off-Field Assessment will take place later in the event or prior to athlete's departure (if circumstances allow) from the venue or practice.
- **Concussion Recognition Tool (CRT) – Coaches (if no athletic trainer or physician available) –** The CRT was designed for non-professional healthcare personnel (e.g. coaches, volunteers) to help them spot a possible concussion. It does not necessarily diagnose a concussion which is left to the healthcare professionals experienced in this, but rather giving the non-healthcare provider a tool used to remove a student-athlete from practice or play because of a potential concussion. When in doubt sit them out.

### **Evaluation and Management for Concussion**

1. The student-athlete does not return to a game or practice if he/she is suspected to have or has any signs or symptoms of a concussion.
2. Observe the student-athlete for status changes every 20-30 minutes. Do not allow the athlete to be left alone after the concussion.
3. Parent/Guardian is notified of injury and athlete is referred to a physician of their choice.
4. Provide post-concussion home instructions and Doctor Referral packet to parent or legal guardian.

**\*\*Do not allow athlete to drive themselves home the day of concussion.**

### **Recovery for the Athlete**

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Student-athletes with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. Rest is defined to symptom limited activity at home; not lying in a dark room with no stimulation. Too much rest is found to prolong concussion recovery. As the symptoms lessen, usually within 48-72 hours, symptom-limiting gradual increases in physical and cognitive activity is encouraged if symptoms do not increase. The idea of sub-symptomatic activity with a gradual increase is known to speed up recovery compared to no activity until asymptomatic.

Light aerobic exercises after a concussion are beneficial and helps with recovery. Light aerobic exercise helps improve blood flow to the brain and improves autonomic function. Per the 2023 Concussion Consensus Statement, athletes may begin the Return to Sport Protocol Step 1, on day 3 post-concussion. The Buffalo Concussion Protocol can also be used 3 days post-concussion depending on severity of symptoms and athletic trainer's clinical judgement as a metric for exercise as treatment and recovery.

### **Recovery of Concussed Student-Athlete: Return to Learn**

Due to the complexity of concussions, it is important to recognize that no two concussions are the same and no two student-athletes will have the same symptomatology pattern. Because of this, recovery also varies from person to person and is why time frames for return-to-sport/learn will be individualized. Concussions can generate fatigue and changes in short-term memory, concentration, thinking speed, and executive function that make learning difficult. With this understanding, recovery and treatment planning, including return to learn will be individualized based upon that student-athlete's symptoms and deficit pattern. Following the injury, the student-athlete will be evaluated by their physician of choice, but preferable one that specializes in concussion and academic accommodations and level of physical activity may be recommended. Re-evaluation will take place if and when symptoms worsen with academic or physical challenges. The athletic trainer will communicate with the school counselor, treating physician, and the student-athlete's assigned academic advisor as to the nature of the student-athlete's diagnosed concussion, individualized initial plan for return to classroom/studying as tolerated and return-to-learn progression. Any academic accommodations or adjustments, including modifying class attendance of the student-athlete, will be communicated to all involved parties via physician note.

Following a concussion, many athletes have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration, and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing stress on the brain early on after a concussion may lessen the symptoms and shorten the recovery time. These modifications can be prescribed by a physician.

### **Return-to-Sport of an Athlete**

A student-athlete that is removed from an athletic practice or competition will not be permitted to practice or compete again until the student-athlete has been evaluated and cleared to begin the return-to-sport protocol through a written statement by a physician of their choice.

1. The student-athlete and their parent or guardian will have to return the FBISD Parental Notice and Physician Release Form that has been signed by the parent/guardian and physician and the completed UIL Concussion Management

2. Protocol Return to Play Form indicating that they have been informed and consent to the policies established under the return-to-sport concussion protocol.
3. If the physician note indicated “No Concussion” per the state concussion law the athlete must still complete the return to sport protocol.
4. Understand the risks associated with the student-athlete’s returning to sport and will comply with any ongoing requirements outlined by the concussion policy.
5. Understand the district or school’s immunity from liability provisions.

### **Return-to-Sport Protocol**

Contact Sports: Steps 1-5 / Non-Contact Sports: Steps 1-4

After **approximately 48 hours of a relative rest period, athlete may begin with Step 1.** Each subsequent step will take a minimum of 24 hours to complete. **The athlete may be in one step several days depending on symptoms. If more than mild exacerbation of symptoms** (more than 2 points on a 0-10 scale for any symptom) the athlete should stop and continue exercising in the same step the next day. If any concussion related symptoms occur during step 4 or 5, they should return to Step 3 to establish full resolution of symptoms with exertion before attempting step 4-5 again.

- **Step 1:** Light aerobic exercise with no resistance training at 50-60% of MHR for 15-20 min.
- **Step 2:** Moderate aerobic activity with resistance training at 60-70% of MHR for 20-25 min.
- **Step 3:** High intensity non-contact individual sport specific exercises at 70-80% MHR for 25-30 min.  
**No contact drills allowed.**
- **Step 4:** Full non-contact practice
- **Step 5:** Full contact practice for Contact Sports. **Game day for Non-Contact Sports.**
- **Step 6:** Return to full participation. **Game day for Contact Sports.**

### **Exercise as Treatment**

Per FBISD Concussion Oversight Team, The Buffalo Concussion Protocol can be used by the licensed athletic trainer to use as a metric to guide individualized treatment while the athlete is symptomatic during recovery from a sports related concussion. **Rest and exercise early after sport-related concussion: a systematic review and meta-analysis. Leddy JJ, Burma JS, Toomey CM, et al. Br J Sports Med 2023;57:762–770.**

### **Prevention Strategies**

Helmets, headgear, and mouth guards do not prevent concussions, but are recommended to prevent serious life-threatening injuries such as skull fractures, facial fractures as well as dental injuries.

- Insist that safety comes first.
- Incorporate neck/upper back strengthening into workouts.
- Teach athletes the dangers of playing with a concussion.
- All headgear must be NOCSAE certified.
- Make sure the headgear fits the individual.
- For all sports that require headgear, a coach or appropriate designee should check headgear before use to make sure air bladders work and are appropriately filled. Padding should be checked to make sure they are in proper working condition.
- Make sure athletes wear the right protective equipment for their activity (such as helmets, padding and mouth guards).

**Middle School Athletics:**

If a student-athlete demonstrates signs or symptoms consistent with a concussion, the following plan will be implemented:

1. The student-athlete shall be immediately removed from the game or practice (to include any weight training or conditioning sessions).
2. The coach will make arrangements to have the student-athlete evaluated by the FBISD Athletic Trainer aligned with their middle school, if available. The parent/guardian of the student-athlete will be notified and provided Post Concussion Home Instructions and Parental Notice and Physician Release Form for the suspected concussion.
3. The FBISD Athletic Trainer can assist the parent or another person with legal authority to make medical decisions for the student, in arranging an appropriate evaluation by a physician. The Athletic Coordinators at the Middle Schools will contact the parent/guardian to notify them of the FBISD Athletic Trainer that will contact them with next steps of completing the return to play protocol after the physician visit.
4. The student-athlete shall not be allowed to return to participation that day regardless of how quick the signs or symptoms of the concussion resolve and shall be kept from activity until the following requirements have been met:
  - The treating physician has provided the parent/guardian of the student- athlete and the athletic trainer or athletic coordinator and designated Administrator, a written statement indicating that, in the physician’s professional judgment, it is safe for the student to return to play once all the requirements of the Return-to-Sport protocol have been met.
  - All steps of the Return- to- Sport Protocol have been met. (supervised by the FBISD Athletic Trainer).

**High School- Middle School Vertical Alignment:**

<b>High School</b>	<b>HS Athletic Trainer Contact Number</b>	<b>Middle School</b>
Austin HS	281-634-2063	Garcia MS /Sartartia MS
Bush HS	281-634-6199	Hodges Bend MS/Crockett MS
Clements HS	281-634-2215	Fort Settlement MS/First Colony MS
Crawford HS	281-327-7484	Thornton MS
Dulles HS	281-634-5655	Dulles MS
Elkins HS	281-634-2651	Quail Valley MS
Hightower HS	281-634-5303	Lake Olympia MS
Kempner HS	281-634-2363	Sugar Land MS
Marshall HS	281-634-6820	Missouri City MS
Ridge Point HS	281-327-5249	Baines MS
Travis HS	281-634-7046	Bowie MS
Willowridge HS	281-634-2495	McAuliffe MS