



Concussion Management

Methodist Sports Medicine / The Orthopedic Specialists recognize that awareness and education regarding concussions in sport is an important aspect of the comprehensive healthcare provided by the Outreach Athletic trainers working in high schools in Indiana. As part of this view, it is important that a consistent approach to handling concussions in high school athletes be formulated to ensure that all athletes receive the highest level of care possible when dealing with these injuries. It is very important as outreach athletic trainers to recognize the symptoms of a concussion and provide proper immediate care of the athlete, communicate with appropriate personnel regarding the injury, and to refer the athlete for follow-up care with an appropriate medical professional trained in the treatment of sports concussions.

Information contained in this document should be used to guide the care and recovery of student athletes in the event of a concussion.

The Indiana High School Athletic Association (IHSAA), National Federation of State High School Associations (NFHS), and, most recently, The Indiana Legislature have issued guidelines/bills that pertain to the immediate care of high school athletes suffering concussion symptoms as well as the distribution of concussion information to parents of high school athletes. The IHSAA and NFHS issued revised playing rules for concussion in 2010.

The Indiana State Legislature has approved Senate Bill 93. This bill further outlines the requirements for disseminating information regarding concussion to high school athletes and their parents as well as mandating that all return to play decisions are made by a physician.

ImPACT Testing

ImPACT Testing is available to all schools served by a Methodist Sports Medicine / The Orthopedic Specialists athletic trainer. The ImPACT test is a computer based test that objectively measures the function of the brain, focusing on attention, memory, processing speed and reaction time. It is recommended that athletes be given the baseline test prior to the beginning of a given sports season, specifically for athletes involved in impact sports. Follow-up tests should be administered in the event of a concussion. Interpretation and evaluation of follow-up tests should be done by a physician trained in the interpretation of the ImPACT test results.

Prevention

MSM/TOS will work with each contracted school system to help distribute concussion information to all coaches, student athletes, and parents of athletes. This may be done through various ways of communication, such as mass emails, newsletters, handouts, and links to Indiana Sports Concussion Network.

Recognition and Evaluation

Early recognition of concussion symptoms is vital to providing appropriate care. Any athlete who exhibits concussion symptoms should immediately be removed from participation in his or her sport. The athlete will not be released to return to the sport until cleared by a concussion trained physician.

Each MSM/TOS ATC who evaluates a concussion will use a standardized concussion evaluation tool as determined by MSM/TOS concussion management doctors. Following the initial incident, the athlete will not be released from qualified medical observation until they demonstrate that symptoms are stable. Once released, a responsible party accompanying the athlete should be educated on the signs symptoms that need to be observed.

On rare occasions it may be necessary to activate the 911 system.

- Loss of consciousness
- Decreasing levels of consciousness
- Extreme drowsiness worsening over time
- Breathing Difficulties
- Severe headaches
- Seizures

Communication

Athlete's Parents or Guardians should be informed of the concussion and be given detailed information regarding symptoms of concussion, the possibility of symptoms getting worse before they get better, when to seek help at a hospital emergency room and the basic treatment of concussions. This initial discussion should also include information regarding when and where to refer the athlete for follow up care and eventual clearance for return to activity.

It may also be necessary to communicate with coaches and game officials regarding the status of a player removed from activity because of concussion. The IHSAA mandates that in the event an athlete is removed from a contest **by an official** due to an apparent concussive event an official's report shall be filed with the school by the official that removed the athlete from play. A report should be generated regardless of whether the athlete was deemed to have a concussion or not.

Additional communication with school administrators may be necessary due to difficulties some athletes will have in school following a concussion. Problems with short and long term memory, concentration and organization may all occur in the classroom setting.

Referral

A referral to a **physician familiar with sport concussions** is necessary to begin the process of returning the athlete to his or her activity. A follow-up ImPACT test is desirable to help guide the decision making regarding returning an athlete to play. The Certified Athletic Trainer should be able to give recommendations for referrals to numerous physicians familiar with concussions. These referrals should include physicians affiliated with various hospitals if needed by the parent insurance. Referral to the physicians at Methodist Sports Medicine / The Orthopedic Specialists is desirable.

Follow Up Care

It is important that the athlete check in with a medical professional on a routine basis to make sure symptoms are improving. Each MSM/TOS ATC that is employed full time to a high school should document the athletes progress on a daily basis, up until the athlete is released from physician care. It will be the athlete's responsibility to check in with the schools medical staff on a routine basis.

Return To Play

Return to Play is guided by the physician and supervised by the certified athletic trainer. If ImPACT scores are within an acceptable range determined by the treating physician, a gradual return to play protocol can begin. This protocol should be a step-wise program allowing a gradual increase in volume and intensity over a 3-5 day process. Any return of concussion-like symptoms during or after any portion of this process should be discussed with the attending physician. An example of a return to play program is outlined below.

Step 1	Light aerobic activity; Light jogging, stationary bike, etc
Step 2	Moderate aerobic exercise; Jogging, short sprints, moderate amount of push ups/situps, etc
Step 3	Intense aerobic exercise; Sprinting workout, limited weight room work, non-contact sport specific drills, jumping, etc
Step 4	Limited return to full contact practice
Step 5	Full sports participation

Release To Play

The Indiana state law includes that an athlete who is suspected of having a concussion or head injury in a practice or game, shall be removed from play at the time of the injury and may not return to play that day and until the student athlete has received a written clearance from a licensed health care provider trained in the evaluation and management of concussions and head injuries. While the law does not designate which physicians are trained in concussion management, it is MSM/TOS's policy that our athletic trainers advise the athlete and/or athlete's parents to see a physician trained in the interpretation of ImPACT testing. The Indiana Department of Education has provided a Release to Play Form in an effort to prevent forged signatures and fake doctors' notes. It is our desire that a standardized form be used for all schools that MSM/TOS is affiliated with.

Overview of Concussion Protocol

The 4 R's

Recognize signs and symptoms of concussion

Remove athlete from play and communicate with parents, coaches and game officials

Refer athlete for further care to a physician familiar with sports concussions

Return to play utilizing a step-wise progression guided by physician and supervised by Certified Athletic Trainer.