



SCOTT & WHITE
Healthcare

Round Rock
*Sports Medicine
and Rehabilitation*

CONCUSSION MANAGEMENT PROTOCOL

I. PURPOSE

Scott & White and Salado ISD are committed to the health and safety of all students who participate in physical activities and athletic competitions as part of the District's Department of Athletics.

Concussions are brain injuries caused by movement of the brain inside the skull. Signs and symptoms may appear immediately or even days after an injury, and may include loss of consciousness, nausea and vomiting, headache, light or noise sensitivity, difficulty concentrating, and confusion. Symptoms can be short-lived or may last days, months, or even longer. Often, no visible injury is present and supervisory personnel may not even witness a specific "event", so reporting of symptoms by students-athletes and their families is critical for diagnosis and management. Importantly, once someone has sustained a concussion, the risk of a second injury, often more severe, is increased, especially if they return to sports or other activities too quickly.

Concussions, even with proper education and training techniques, do occur among SISD student-athletes. These injuries can, of course, occur outside the athletic environment; the effects certainly affect health and behavior beyond the playing field.

Given the evolving standards with regard to concussions, and our primary concern with the health and safety of SISD student-athletes, the goal of this protocol is to raise awareness among students, parents, teachers and other members of the SISD community. By establishing this protocol, SISD does not assume liability for advice given under this protocol, nor will liability result for failing to comply with this protocol. Rather, the protocol establishes minimum standards to be followed whenever possible. Due to the individual circumstances of each situation, the application of the protocol may vary.

II. DEFINITION OF CONCUSSION

A) Concussion is defined as 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:

- i) Concussion may be caused either by a direct blow to the head, face or neck or a blow elsewhere on the body with an "impulsive" force transmitted to the head.
- ii) Concussion typically results in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously.

iii) Concussion may result in neuropathological changes but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury.

iv) 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. In a small percentage of cases, however, post-concussive symptoms may be prolonged.

v) No abnormality on standard structural neuroimaging studies is seen in concussion.

III. SIGNS AND SYMPTOMS OF CONCUSSION

SYMPTOMS REPORTED BY ATHLETE

Headache
Nausea
Balance problems or dizziness
Double or fuzzy vision
Sensitivity to light or noise
Feeling sluggish
Feeling foggy or groggy
Concentration or memory problems
Confusion

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES

Appears dazed or stunned
Is confused about what to do
Forgets plays
Is unsure of game, score, or opponent
Moves clumsily
Answers questions slowly
Loses consciousness
Shows behavior or personality changes
Can't recall events prior to hit
Can't recall events after hit

IV. CONCUSSION MANAGEMENT

A) Any athlete who exhibits concussion signs and/or symptoms while participating with a SISD athletic team will be removed from the remainder of the event and not allowed to perform any activities that may increase the severity of the signs and/or symptoms

i) If a team physician or athletic trainer is present at the event, the athlete will be referred to that individual to have a concussion evaluation performed on them.

ii) After examination by the team physician or athletic trainer, no athlete who is suspected to have suffered a concussion shall return to participation on the same day; return on the same day will be allowed if the team physician and/or athletic trainer determines that no concussion or other brain injury has occurred and that it is safe to return to participation.

iii) If a physician or athletic trainer is not present at the event, the head coach for the sport will be responsible for keeping the athlete out of competition for the day, and contacting the parents of the athlete.

iv) Any athlete who is exhibiting concussion signs and/or symptoms, must have their parent(s)/guardian notified by the physician, athletic trainer, or head coach.

v) The athlete should be released *only* to the direct supervision of the parent(s)/guardian unless arrangements have been made between the physician, athletic trainer, or head coach and the parent(s)/guardian.

B) Referral

i) Emergency Referral

(1) The athlete will be transported to the nearest medical facility if any of the following signs/symptoms are noted:

- (a) Loss of consciousness on the field/court lasting greater than 1 (one) minute.
- (b) Deterioration of neurological function
- (c) Decreasing level of consciousness
- (d) Decrease or irregularity in respirations
- (e) Decrease or irregularity in pulse
- (f) Increasing blood pressure
- (g) Abnormally dilated, unequal, or unreactive pupils
- (h) Any signs or symptoms of associated head/neck injuries, spine or skull fractures, or bleeding
- (i) Mental status changes: lethargy, difficulty maintaining arousal, confusion, or agitation
- (j) Weakness or numbness
- (k) Slurring of speech
- (l) Headaches that are worsening over time.

ii) Mandatory referral

(1) The student-athlete that exhibits signs and/or symptoms of a concussion shall be referred to a physician.

V. COGNITIVE REST

A concussion can interfere with school, work, sleep and social interactions. Student-athletes who have a concussion may have difficulty in school with short- and long-term memory, concentration and organization. These problems typically last no longer than a week or two, but for some, these difficulties may last for months. It is best to lessen the student's class load early on after the injury. Most students with concussion recover fully. However, returning to sports and other regular activities too quickly can prolong the recovery.

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Students 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. As the symptoms lessen, increased use of computers, phone, video games, etc., may be allowed.

RETURN TO PLAY

Return to play post-concussion is a progressive-stepwise protocol that is supervised by an athletic trainer or trained SISD coach. Only athletes that are free of signs and symptoms of concussion may begin the return to play protocol. At each stage of the return to play protocol, specific objectives and restrictions are implemented to make sure a gradual progression is followed by the athlete and also allows for monitoring of signs and symptoms. The student-athlete is allowed to continue to the next level/stage if he/she is asymptomatic after the completion of the current stage. If any post-concussive symptoms do occur along the stepwise progression, the athlete is required to drop back to the previous asymptomatic stage and allowed to attempt return to the return to play protocol after a rest period. The table below describes the recommended return to play protocol.

Stage	Functional Exercise	Objective
1. No Activity	Complete physical and cognitive rest	Recovery
2. Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity <70% maximum predicted heart rate. No weight lifting	Increase heart rate
3. Sport-specific exercise	Controlled simple sport specific drills. Light jogging, running, etc. No head impact activities	Add Movement
4. Non-contact training drills	Progression to more complex training drills, e.g. passing drills in football increased intensity running, jumping, cutting, etc. May start progressive weight lifting	Exercise, coordination, and cognitive load
5. Full contact practice	Following medical clearance, participate in normal practice/training activities	Restore confidence and assess functional skills by athletic training and coaching staff
6. Normal game play	---	---

A student-athlete must be cleared by a physician before returning to full contact practice or normal game play. A medical clearance note from a physician will be required before full return to participation is allowed. Any notes from a physician will not supersede established SISD protocols. ALL return to play guidelines must be met and each step completed in its entirety prior to being cleared for full participation.

