

**Seminole ISD Athletic Department  
Guidelines for Concussion  
Management**

Introduction

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

Athletes who have experienced a concussion can display a wide variety of symptoms. Although the classic symptoms of loss of consciousness, confusion, memory loss, and/or balance problems may be present in some athletes with mild traumatic brain injury, there may or 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.

Seminole ISD is in compliance with HB 2038, 82(R). A student removed from an athletics practice or competition would not be permitted to practice or compete again until the student had been evaluated and cleared to play through a school-issued written statement by the family's physician. The student's parent or guardian and student would have to return the physician's statement and complete a consent form indicating that they had been informed and consented to the policies established under the return-to-play protocol; understood the risks associated with the student's returning to play and would comply with any ongoing requirements outlined by the concussion policy; consented to the physician's disclosure of health information that was related to the concussion treatments; and understood the district or school's immunity from liability provisions. The Seminole ISD Concussion Oversight Team includes:

Carl Lira – LAT – Athletic Trainer

Scott Sloan – LAT – Athletic Trainer

J.P. Letillier – MD – Team Physician

Wendell Parkey – MD – Team Physician

Tamara Todd – Nurse Practitioner – Team Physician

## Recovery and safe return-to-play

It is crucial to allow enough healing and recovery time following a concussion to prevent further damage. Research suggests that the effects of repeated concussion are cumulative over time.

Most athletes who experience an initial concussion can recover completely as long as they do not return to contact sports too soon. Following a concussion, there is a period of change in brain function that may last anywhere from 24 hours to 10 days. During this time, the brain may be vulnerable to more severe or permanent injury. If the athlete sustains a second concussion during this time period, the risk of permanent brain injury increases.

## Definitions

**Concussion or Mild Traumatic Brain Injury (MTBI)** - A concussion or MTBI is the common result of a blow to the head or body, which causes the brain to move rapidly within the skull. 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. Concussions can have serious and long-term health effects, even from a mild bump on the head. 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 but many do not. These symptoms may be temporary or long lasting.

**Second Impact Syndrome** - Second impact syndrome (SIS) refers to catastrophic 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 is more likely to cause brain swelling with other widespread damage to the brain. This can be fatal. Most often SIS occurs when an athlete returns to activity without being symptom free from the previous concussion.

## Prevention Strategies

Helmets, headgear, and mouth guards do not prevent all concussions.

1. All headgear must be NOCSAE certified.
2. Make sure the headgear fits the individual.
3. For all sports that require headgear, a coach or appropriate designate 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.
4. Make sure helmets are secured properly at all times.
5. Mouth guards should fit and be used at all times.

## Evaluation for Concussion/MTBI

1. At time of injury administer one of these assessment tests:
  - a. Sports Concussion Assessment Tool (SCAT)
  - b. Graded Symptom Checklist (GSC)

2. Observe athlete 15 to 20 minutes and re-evaluate.
3. Athlete does not return to a game or practice if he/she has any signs or symptoms of Mild Traumatic Brain Injury (Concussion).
4. Doctor Referral
5. Home Instructions
6. Return to Play Guidelines for Parents
7. **Note - If in doubt, athlete is referred to physician and does not return to play.**

### Concussion Management

1. Recommended school modifications
  - a. Notify Assistant Principal and Counselor of the student that he/she has MTBI
  - b. Notify Counselor and Assistant Principal of post concussion symptoms
  - c. Student may need special accommodations such as limited computer work, reading activities, testing, assistance to class, etc. until symptoms subside
  - d. Student may only be able to attend school for half days or may need daily rest periods until symptoms subside with physician authorization
2. Student must show no signs of post-concussion symptoms before return to play protocol begins.
3. Student will not return to full practice or competition for minimum of 7 days.
4. The treating physician must provide a written statement to the parent and athletic trainer indicating that, in the physician's professional judgment, it is safe for the student to return to play.
5. Student athlete and the parent/guardian have signed the form acknowledging the completion of the return to play guidelines, which includes the understanding the risks associated with the student athlete's return to play.

### Return to Play Guidelines

Athlete must show no signs of post-concussion symptoms before return to play protocol begins.

1. Athlete activity progressions
  - a. Light aerobic exercise with no resistance training
  - b. Moderate aerobic activity with resistance training
  - c. Sport specific activity and Non-contact training drills
  - d. Full contact training drills can begin after minimum 7 days
  - e. Return to full participation (pending physician clearance)
  - f. **Note - Athlete activity progression continues as long as athlete is asymptomatic at current level. If the athlete experiences any post concussion symptoms, stop physical activity until symptom free for 24-48 hours. Resume with phase or level in which they were previously asymptomatic.**
2. Physician clearance
3. Athletic Trainer clearance

## Doctor Referral

### Immediate Emergency Referral -

The athlete needs to be transported immediately to the nearest emergency department.

1. Deterioration of neurologic function
2. Decreasing level of consciousness
3. Decrease or irregularity in respiration
4. Decrease or irregularity in pulse
5. Unequal, dilated or unreactive pupils
6. Any signs or symptoms of associated injuries, spine or skull fracture or bleeding
7. Mental status changes: lethargy, difficulty maintaining arousal, confusion, or agitation
8. Seizure activity

### Day of Injury Referral

1. Loss of consciousness on the field
2. Amnesia
3. Increase in blood pressure
4. Cranial nerve deficits
5. Vomiting
6. Motor deficits subsequent to initial on-field exam
7. Sensory deficits subsequent to initial on-field exam
8. Balance deficits subsequent to initial on-field exam
9. Cranial nerve deficits subsequent to initial on-field exam
10. Post-concussion symptoms that worsen
11. Additional post-concussion symptoms as compared with those on the field
12. Athlete is symptomatic one hour after initial assessment

### Delayed Referral (after the day of the injury)

1. Any of the findings in the day of injury referral category
2. Post-concussion symptoms worsen or do not improve over time
3. Increase in the number of post-concussion symptoms reported
4. Post-concussion symptoms begin to interfere with the athlete's daily activities (ie. sleep, cognition, depression, aggression, etc.)

### Return to Play Referral

1. During or after return to play progression
  - a. The treating physician must provide a written statement to the parent and athletic trainer indicating that, in the physician's professional judgment, it is safe for the student to return to play.
  - b. Student athlete and the parent/guardian have signed the form acknowledging the completion of the return to play guidelines which includes the understanding the risks associated with the student athlete's return to play.

## Home Instructions

\_\_\_\_\_ has sustained a concussion during  
today. To make sure he/she recovers please follow the following important recommendations:

1. Please review the items outlined on the **Physician Referral Checklist**. If any of these problems develop, please call 911 or your family physician.
2. Things that are OK to do:
  - a. Take acetaminophen (Tylenol)
  - b. Use ice packs on head or neck as needed for comfort
  - c. Eat a light diet
  - d. Go to sleep (rest is very important)
  - e. No strenuous activity or sports
  - f. Return to school
3. Things that should **NOT** be allowed:
  - a. Any pain medication other than acetaminophen
  - b. Eat spicy foods
  - c. Watch TV
  - d. Listen to ipod or talk on telephone
  - e. Read
  - f. Use a computer
  - g. Bright lights
  - h. Loud noise
  - i. Drink alcohol
  - j. Drive until symptom free for 24 hours
4. Things there is no need to do:
  - a. Check eyes with a flashlight
  - b. Wake up every hour
  - c. Test reflexes
5. Have student report to athletic training room at 7 AM tomorrow morning for a follow-up exam

Further recommendations:

Instructions provided to: \_\_\_\_\_

Signature: \_\_\_\_\_

Instructions provided by: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Seminole ISD Head Injury Return to Play Form

This form must be completed and submitted to the athletic trainer or other person (who is NOT a coach) responsible for compliance with the Return to Play protocol established by the school district Concussion Oversight Team, as determined by the Superintendent or their designee (see Section 38.157 © of the Texas Education Code).

Name of Student _____	Sport _____	School _____
Date of Injury: _____		
<p>Parent/Guardian signs and certifies that he/she has been informed concerning the aforementioned student returning to play in accordance with the return to play protocol that has been established by the Concussion Oversight Team. By signing, the parent/guardian understands the risks associated with the student returning to play and will comply with any ongoing requirements in the Return to Play Protocol. The parent/guardian consents to the disclosure to appropriate persons consistent with the Health Insurance Portability and the Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician's written statement under subdivision (3) and, if any, the return to play recommendations of the treating physician. The parent/guardian understands the immunity provisions under section 38.159 of the Texas Education Code.</p>		
Parent/Guardian Signature: _____		
Parent/Guardian Printed Name: _____		
Date: _____		

Signs observed at time of injury	Signs reported by the athlete at the time of injury
<input type="checkbox"/> Appears to be dazed or stunned	<input type="checkbox"/> Headache
<input type="checkbox"/> Is confused about assignment	<input type="checkbox"/> Nausea
<input type="checkbox"/> Forgets Plays	<input type="checkbox"/> Balance problems or dizziness
<input type="checkbox"/> Is unsure of game score, opponent	<input type="checkbox"/> Double or fuzzy vision
<input type="checkbox"/> Moves clumsily	<input type="checkbox"/> Sensitivity to light or noise
<input type="checkbox"/> Answers questions slowly	<input type="checkbox"/> Feeling sluggish
<input type="checkbox"/> Loss of consciousness (even temporarily)	<input type="checkbox"/> Feeling foggy
<input type="checkbox"/> Shows behavior or personality change	<input type="checkbox"/> Change in sleep pattern
<input type="checkbox"/> Forgets events prior to hit (retrograde amnesia)	<input type="checkbox"/> Concentration or memory problems
<input type="checkbox"/> Forgets events after hit (anterograde amnesia)	
Observations reported by: _____	Title: _____

<p><b>Return to Play Guidelines</b>          Athletes must complete the following process prior to returning to play after a concussion  <b>NO activity and rest until symptom free</b>          Day 1 – Light aerobic exercise          Day 2 – Moderate aerobic exercise with resistance training          Day 3 – Sport specific training / Non-contact training          Day 4 – Full contact drills (minimum 7 days post injury)          Day 5 – Game play</p> <p><b>NOTE – Athlete's activity progression continues as long as athlete is asymptomatic at current level. If athlete experiences any post concussion symptoms, STOP activity until symptom free for 24 hours. Resume with phase or level in which they were previously asymptomatic.</b></p>
--

<p>Athletic Trainer Verifies          The student has been evaluated by a treating physician selected by the student, parent/guardian and/or other person with legal authority to make medical decisions for that student. The student has completed the return to play protocol established by Seminole ISD concussion oversight team. Seminole ISD has received a written statement from the treating physician indicating that in the physician's professional judgment, it is safe for the student to return to play.</p>	
Athletic Trainer Printed Name: _____	Date: _____
Athletic Trainer Signature: _____	

### Physician Information/Recommendations

# Student Sport Concussion Assessment Tool (SCAT)

This tool represents a standardized method of evaluating people after concussion in sport. This Tool has been produced as part of the Summary and Agreement Statement of the Second International Symposium on Concussion in Sport. Prague 2004

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

1. 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.
2. Concussion typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously.
3. Concussion may result in neuropathological changes but the acute clinical symptoms largely reflect a functional disturbance rather than structural injury.
4. Concussion results in a graded set of clinical syndromes that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course.
5. Concussion is typically associated with grossly normal structural neuroimaging studies.

## Post Concussion Symptoms

Ask the athlete to score themselves based on how they feel now. It is recognized that a low score may be normal for some athletes, but clinical judgment should be exercised to determine if a change in symptoms has occurred following the suspected concussion event.

It should be recognized that the reporting of symptoms may not be entirely reliable. This may be due to the effects of a concussion or because the athlete's passionate desire to return-to-competition outweighs their natural inclination to give an honest response.

If possible, ask someone who knows the athlete well about changes in affect, personality, behavior, etc.

Remember, a concussion should be suspected in the presence of ANY ONE or more of the following:

- \* Symptoms (such as headache), or
- \* Signs (such as loss of consciousness), or
- \* Memory problems

**Any athlete with a suspected concussion should be monitored for deterioration (i.e., should not be left alone and should not drive a motor vehicle).**

For more information see the "Summary and Agreement Statement of the Second International Symposium on Concussion in Sport" in the April, 2005 edition of the Clinical Journal of Sport Medicine (vol 15), British Journal of Sports Medicine (vol 39), Neurosurgery (vol 59) and the Physician and Sportsmedicine (vol 33). This tool may be copied for distribution to teams, groups and organizations.  
©2005 Concussion in Sport Group

## The SCAT Card (Sport Concussion Assessment Tool) Athlete Information

What is a concussion? A concussion is a disturbance in the function of the brain caused by a direct or indirect force to the head. It results in a variety of symptoms (like those listed below) and may, or may not, involve memory problems or loss of consciousness.

How do you feel? You should score yourself on the following symptoms, based on how you feel now.

### Post Concussion Symptom Scale

	None		Moderate		Severe		
Headache	0	1	2	3	4	5	6
Pressure in the head	0	1	2	3	4	5	6
Neck Pain	0	1	2	3	4	5	6
Balance Problems/dizzy	0	1	2	3	4	5	6
Nausea/Vomiting	0	1	2	3	4	5	6
Vision Problems	0	1	2	3	4	5	6
Hearing problems/ringing	0	1	2	3	4	5	6
Don't feel right	0	1	2	3	4	5	6
Feeling dinged or dazed	0	1	2	3	4	5	6
Confused	0	1	2	3	4	5	6
Feeling slowed down	0	1	2	3	4	5	6
Feeling like in a fog	0	1	2	3	4	5	6
Drowsy	0	1	2	3	4	5	6
Fatigue or low energy	0	1	2	3	4	5	6
More emotional than usual	0	1	2	3	4	5	6
Irritable	0	1	2	3	4	5	6
Difficulty concentrating	0	1	2	3	4	5	6
Difficulty remembering	0	1	2	3	4	5	6

### Follow up symptoms only

Sadness	0	1	2	3	4	5	6
Nervous or anxious	0	1	2	3	4	5	6
Trouble falling asleep	0	1	2	3	4	5	6
Sleeping more than usual	0	1	2	3	4	5	6
Sensitivity to light	0	1	2	3	4	5	6
Sensitivity to noise	0	1	2	3	4	5	6
Other _____	0	1	2	3	4	5	6

## What should I do?

Any athlete suspected of having a concussion should be removed from play, and then seek medical evaluation.

## Signs to watch for:

Problems could arise over the first 24-48 hours. You should not be left alone and must go to a hospital at once if you:

- Have a headache that gets worse
- Are very drowsy or can't be awakened (woken up)
- Can't recognize people or places
- Have repeated vomiting
- Behave unusually or seem confused;
- Are very irritable
- Have seizures (arms and legs jerk uncontrollably)
- Have weak or numb arms or legs
- Are unsteady on your feet: have slurred speech

Remember, it is better to be safe. Consult your doctor after a suspected concussion.

## What can I expect?

Concussion typically results in the rapid onset of short-lived impairment that resolves spontaneously over time. You can expect that you will be told to rest until you are fully recovered (that means resting your body and your mind). Then, your doctor will likely advise that you go through a gradual increase in exercise over several days before returning to sport.

# Medical Personnel Sport Concussion Assessment Tool (SCAT)

The SCAT Card  
(Sport Concussion Assessment Tool)  
Medical Evaluation

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Sport/Team: \_\_\_\_\_ Mouth guard? Y / N

## 1) SIGNS

Was there loss of consciousness or unresponsiveness? Y N  
Was there seizure or convulsive activity? Y N  
Was there a balance problem / unsteadiness? Y N

## 2) MEMORY

Modified Maddocks questions (check correct)  
At what venue are we? \_\_\_\_\_; Which half is it? \_\_\_\_\_  
Who scored last? \_\_\_\_\_; What team did we play last? \_\_\_\_\_  
Did we win last game? \_\_\_\_\_

## 3) SYMPTOM SCORE

Total number of positive Symptoms (from reverse side of the card) = \_\_\_\_\_

## 4) COGNITIVE ASSESSMENT

5 word recall

	Immediate	Delayed
(alter concentration tasks)		
Word 1 - Cat	_____	_____
Word 2 - Pen	_____	_____
Word 3 - Shoe	_____	_____
Word 4 - Box	_____	_____
Word 5 - Car	_____	_____

Months in reverse order. Jun-May-Apr-Mar-Feb-Jan-Dec-Nov-Oct-Sep-Aug-Jul (circle incorrect)

or Digits backwards (check correct)

5-2-8	3-9-1	_____
6-2-9-4	4-3-7-1	_____
8-3-2-7-9	1-4-9-3-6	_____
7-3-9-1-4-2	5-1-8-4-6-8	_____

Ask delayed 5-word recall now

## 5) NEUROLOGIC SCREENING

Fail  
Pass  
Speech  
Eye Motion and Pupils  
Pronator Drift  
Gait Assessment

*Any neurologic screening abnormality necessitates formal neurologic or hospital assessment*

## 6) RETURN TO PLAY

Athletes should not be returned to play the same day of injury. When returning athletes to play, they should follow a stepwise symptom-limited program, with stages of progression. For example:  
rest until asymptomatic (physical and mental rest)  
light aerobic exercise (e.g. stationary cycle)  
sport-specific exercise  
non-contact training drills (start light resistance training)  
full contact training after medical clearance  
return to competition (game play)

There should be approximately 24 hours (or longer) for each stage and the athlete should return to stage 1 if symptoms recur.

## Instructions:

This side of the card is for the use of medical doctors, physiotherapists or athletic therapists. In order to maximize the information gathered from the card, it is strongly suggested that all athletes participating in contact sports complete a baseline evaluation prior to the beginning of their competitive season. This card is a suggested guide only for sports concussion and is not meant to assess more severe forms of brain injury. Please give a COPY of this card to the athlete for their information and to guide follow-up assessment.

**Signs:** Assess for each of these items and circle Y (yes) or N (no)

**Memory:** If needed, questions can be modified to make them specific to the sport (a.g. "period" versus "hat")

**Cognitive Assessment:** Select any 5 words (an example is given). Avoid choosing related words such as "dark" and "moon" which can be recalled by means of word association. Read each word at a rate of one word per second. The athlete should not be informed of the delayed testing of memory (to be done after the reverse months and/or digits). Choose a different set of words each time you perform a follow-up exam with the same candidate. Ask the athlete to recite the months of the year in reverse order, starting with a random month. Do not start with December or January. Circle any months not recited in the correct sequence. For digits backwards, if correct, go to the next string length. If incorrect, read trial 2. Stop after incorrect on both trials.

**Neurologic Screening:** Trained medical personnel must administer this examination. These individuals might include medical doctors, physiotherapists or athletic therapists. Speech should be assessed for fluency and lack of sturring. Eye motion should reveal no diplopia in any of the 4 planes of movement (vertical, horizontal and both diagonal planes). The pronator drift is performed by asking the patient to hold both arms in front of them, palms up, with eyes closed. A positive test is pronating the forearm, dropping the arm, or drift away from midline. For gait assessment, ask the patient to walk away from you, turn and walk back.

**Return to Play:** A structured, graded exertion protocol should be developed: individualized on the basis of sport, age and the concussion history of the athlete. Exercise or training should be commenced only after the athlete is clearly asymptomatic with physical and cognitive rest. Final decision for clearance to return to competition should ideally be made by a medical doctor.

For more information see the summary and Agreement Statement of the Second International Symposium on Concussion in Sport" in the April, 2005 Clinical Journal of Sport Medicine (vol 15), British Journal of Sports Medicine (vol 39), Neurosurgery (vol 59) and the Physician and Sportsmedicine (vol 33) ©2005 Concussion in Sport Group

## Post Concussion Symptom Scale

Athlete Name: \_\_\_\_\_

Symptom	Date:	Date:	Date:	Date:
	Post Injury	Post Injury	Post Injury	Post Injury
Headache				
"Pressure in head"				
Neck pain				
Balance problems or dizziness				
Nausea or vomiting				
Vision Problems				
Hearing problems / ringing				
"Don't feel right"				
Feeling "dinged" or "dazed"				
Confusion				
Feeling slowed down				
Feeling like "In a fog"				
Drowsiness				
Fatigue or low energy				
More emotional than usual				
Irritability				
Difficulty concentrating				
Difficulty remembering				
Sadness				
Nervous or anxious				
Trouble falling asleep				
Sleeping more than usual				
Sensitivity to light				
Sensitivity to noise				
Other				

The Post-Concussion Symptom Scale should be used for the initial evaluation on the SCAT evaluation and for each subsequent follow-up assessment until all signs/symptoms have cleared at rest and during physical exertion. The athletic trainer will ask the athlete to grade or score the severity of the symptom on a scale of 0-6, where 0 = not present, 1 = mild, 3 = moderate, and 6 = most severe.