Houston 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 concussions 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 concussions 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.

Houston ISD is in compliance with HB 2038, 82(R). A student that is removed from an athletics practice or competition will not be permitted to practice or compete again until the student had been evaluated and cleared to play through a written statement by a physician. The student's parent or guardian and student will have to 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-play Concussion protocol; understands the risks associated with the student's returning to play and will 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 understands the district or school's immunity from liability provisions. The Houston ISD Concussion Oversight Team consists of:

Gary Nicol LAT – Athletic Trainer
Mia Watson LAT – Athletic Trainer
Wes Speights ATC, LAT – Athletic Trainer
Erik Thompson LAT – Athletic Trainer
Charles Walker LAT – Athletic Trainer
Theresa Ripperger ATC, LAT – Athletic Trainer
Samantha McFarlin LAT – Athletic Trainer
Jeffrey Gaitz MD – Neurologist

Joseph Chorley MD – Team Physician
William Mosie Jones MD – Team Physician
David Crumbie MD – Team Physician
Howard S. Derman MD- Neurologist
Summer Ott, Psy.D. – Neuropsychologist
Rick Nixon MD – Team Physician
Kaare Kolstad MD – Team Physician
David M. Lintner MD – 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 concussions 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 concussions, but are recommended to prevent skull and facial fractures as well as dental injuries.

1. Insist that safety comes first.
2. Teach athletes the dangers of playing with a concussion.
3. All headgear must be NOCSAE certified.
4. Make sure the headgear fits the individual.
5. 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.
6. Make sure athletes wear the right protective equipment for their activity (such as helmets, padding and mouth guards).

Evaluation for Concussion/MTBI

1. At time of injury administer one of these assessment tests:
    a. Sports Concussion Assessment Tool (SCAT2)
    b. Graded Symptom Checklist (GSC)
    c. Sideline Functional and Visual Assessments
    d. On-Field Cognitive Testing
2. Athlete does not return to a game or practice if he/she has any signs or symptoms of Mild Traumatic Brain Injury (Concussion)
3. Observe athlete for status changes every 15 to 20 minutes.
4. Coach will bring helmet of concussed player to athletic trainer.
5. Doctor Referral
6. Home Instructions
7. Return to Play Guidelines for Parents
8. **Note - If in doubt, athlete is referred to physician and does not return to play.**

Concussion Management

1. Recommended school modifications
    a. Coach will notify school administrators of the student that he/she has MTBI
    b. Coach will notify school administrators 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 understanding the risks associated with the student athlete's return to play.
6. Athletes that have a history of multiple concussions or that have persistent symptoms or indicating cognitive difficulties following concussion will be referred to neurocognitive assessment with a concussion specialist.

Return to Play Guidelines

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

1. Athlete activity progressions
    a. No activity for at 48-72 hours after injury & athlete is symptom free
    b. Physician clearance to begin activity
    c. Light aerobic exercise with no resistance training 10-15 minutes (e.g., walking, stationary bike)
    d. Moderate aerobic activity with resistance training 20-25 minutes (e.g., running, light weights – No squat, dead lift or bench press)
    e. Sport specific activity and non-contact training drills. Heavy exertion, at least 30 minutes (e.g., non-contact training or non-contact practice)
    f. Full practice including light contact activities (e.g., head balls in soccer, sleds in football)
    g. Full practice – Full contact
    h. Return to full participation (pending physician clearance)
    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. Parent clearance
4. Athletic Trainer clearance

Houston ISD Preseason

Parental Information and Consent Form for Concussions

What is a concussion?

A concussion is an injury to the brain. It is caused by a bump, blow, or jolt to either the head or the body that causes the brain to move rapidly within the skull. The resulting injury to the brain changes how the brain functions in a normal manner. The signs and symptoms of a concussion can show up immediately after the injury or may not appear for hours or days after the injury. Concussions can have serious long-term health effects, and even a seemingly mild injury can be serious. A major concern with any concussion is returning to play too soon. Having a second concussion before healing can take place from the initial or previous concussion can lead to serious and potentially fatal health conditions.

What are the symptoms of a concussion?

Signs and symptoms of a concussion are typically noticed right after the injury, but some might not be recognized until days after the injury. Common symptoms include: headache, dizziness, amnesia, fatigue, confusion, mood changes, depression, poor vision, sensitivity to light or noise, lethargy, poor attention or concentration, sleep disturbances, and aggression. The individual may or may not have lost consciousness.

What should be done if a concussion is suspected?

1. Immediately remove student from practice or game
2. Seek medical attention right away
3. Do not allow the student to return to play until proper medical clearance and return to play guidelines have been followed. The permission for return to play will come from the appropriate health care professional or professionals.

If you have any questions concerning concussions or the return to play policy, you may contact your stadium athletic trainer.

What should the athlete know about playing with a concussion?

Teach athletes it's not smart to play with a concussion. Rest is the key after a concussion. Sometimes athletes, parents, and other school or league officials wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don't let your athlete convince you that they're "just fine."

What are the risks of returning to activity too soon after sustaining a concussion?

Prevent long-term problems. If an athlete has a concussion, their brain needs time to heal. Don't let them return to play the day of the injury and until a health care professional, experienced in evaluating concussions, states they are symptom-free and OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short time period (hours, days, weeks)—can slow recovery or increase the chances for long-term problems.

What can happen if my child keeps on playing with a concussion?

Athletes with the signs and symptoms of concussion should be removed from play immediately. Continuing to play with the signs and symptoms of a concussion leaves the young athlete especially vulnerable to greater injury. There is an increased risk of significant damage from a concussion for a period of time after that concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one. This can lead to prolonged recovery, or even to severe brain swelling (second impact syndrome) with devastating and even fatal consequences. It is well known that adolescent or teenage athletes will often under report symptoms of injuries. And concussions are no different. As a result, education of administrators, coaches, parents and students is the key for student-athlete's safety.

Liability Provisions

The student and the student's parent or guardian or another person with legal authority to make medical decisions for the student understands this policy does not:

1. waive any immunity from liability of a school district or open-enrollment charter school or of district of charter school officers or employees;
2. create any liability for a cause of action against a school district or open-enrollment charter school or against district or charter school officers or employees;
3. waive any immunity from liability under Section 74.151, Civil Practice and Remedies Code;
4. Create any liability for a member of a concussion oversight team arising from the injury or death of a student participating in an interscholastic athletics practice of competition, based only on service on the concussion oversight team.

Houston ISD Parental Information and Consent Form for Concussions

By signing this form, I understand the risks and dangers related with returning to play too soon after a concussion. Furthermore, in the event that my son/daughter is diagnosed with a concussion, I give my consent for my son/daughter to participate in and comply with the Houston ISD return to play Concussion protocol. The undersigned, being a parent, guardian, or another person with legal authority, grants this permission.

Athlete's Name (print) _____

Parent's or Guardian's Name (print) _____

Parent's or Guardian's Signature _____

Date: _____

Houston ISD Return to Play Guidelines for Parents

General Information for Parents

Teach it's not smart to play with a concussion. Rest is the key after a concussion. Sometimes athletes, parents, and other school or league officials wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don't let your athlete convince you that they're "just fine."

Prevent long-term problems. If an athlete has a concussion, their brain needs time to heal. Don't let them return to play the day of the injury and until a health care professional, experienced in evaluating for concussion, says they are symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short time period (hours, days, weeks)—can slow recovery or increase the chances for long-term problems.

Houston ISD has developed a protocol for managing concussions. This policy includes a multidiscipline approach involving athletic trainer clearance, physician referral and clearance, and successful completion of activity progressions related to their sport. The following is an outline of this procedure. Your son/daughter must pass all of these tests in order to return to sport activity after having a concussion.

1. All athletes who sustain head injuries are required to be evaluated by a physician. They must have a normal physical and neurological exam prior to being permitted to progress to activity. This includes athletes who were initially referred to an emergency department.
2. The student will be monitored daily at school by the athletic trainer and/or school nurse. His/her teachers will be notified of their injury and what to expect. Accommodations may need to be given according to physician recommendations and observations.
3. The student must be asymptomatic at rest and exertion.
4. Once cleared to begin activity, the student will start a progressive step-by-step procedure outlined in the following steps. The progressions will advance at the rate of one step per day. The progressions are:
    a. Return to play protocol will begin at least 72 hours after injury. The athlete must be symptom free. A minimum of 7 days before a full practice or competition will begin.
    b. Physician clearance to begin activity
    c. Light aerobic exercise with no resistance training 10-15 minutes (e.g., walking, stationary bike)
    d. Moderate aerobic activity with resistance training 20-25 minutes (e.g., running, light weights – No squat, dead lift or bench press)
    e. Sport specific activity and non-contact training drills Heavy exertion, at least 30 minutes (e.g., non-contact training or non-contact practice)
    f. Full practice including light contact activities (e.g., head balls in soccer, sled in football)
    g. Full Practice – Full Contact
    h. Return to full participation (pending physician clearance)
    Note – Athlete progression continues as long as athlete is asymptomatic at current activity level. If the athlete experiences any post concussion symptoms, he/she will wait 24-48 hours and start the progressions again at the beginning.

5. **Upon completion of the return to play protocol, the physician of record must provide a written statement that in the physician's professional judgment it is safe for the athlete to return to play. This paperwork must be submitted to the stadium athletic trainer.**
6. Once the student has completed steps 1 through 5, he/she may return to their sport activity with no restrictions.

Houston ISD: Home Instructions for Concussions

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

1. If any symptoms develop or get worse, 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. A concussed athlete needs between 8-10 hours of sleep each night. Rest is very important.
    e. No strenuous activity or sports
    f. Return to school
3. Things that should **not** be allowed:
    a. Eat spicy foods
    b. Watch TV
    c. Text message
    d. Play videogames
    e. Use Facebook or social networking
    f. Shoot guns or other firearms
    g. Listen to an iPod
    h. Talk on the telephone
    i. Use a computer
    j. Exposure to bright lights
    k. Exposure to loud noise
    l. Drink alcohol
4. Please do not do the following:
    a. Check eyes with a flashlight
    b. Wake up every hour
    c. Test reflexes
5. Have student report to clinic or athletic training room at _____ tomorrow for a follow-up exam

Further recommendations:

Instructions provided to: _____

Signature: _____

Instructions provided by: _____

Signature: _____

Date: _____ Time: _____

Contact Number: _____

Houston ISD

Authorization for the Release of Medical Information

The Family Educational Right to Privacy Act Of 1974 (FERPA) is a federal law that governs the release of a student's educational records, including personal identifiable information (name, address, social security number, etc.) from those records. Medical information is considered a part of a student athlete's educational record. Also, the Health Insurance Portability and Accounting Act of 1996 (HIPAA) allows the disclosure of information from treating physicians.

This authorization permits the athletic trainers and team physicians of the Houston ISD to obtain and disclose information concerning my medical status, medical condition, injuries, prognosis, diagnosis, and related personal identifiable health information to the authorized parties listed below. This information includes injuries or illnesses relevant to past, present, or future participation in athletics.

The purpose of a disclosure is to inform the authorized parties of the nature, diagnosis, prognosis or treatment concerning my medical condition and any injuries or illnesses. I understand once the information is disclosed it is subject to re-disclosure and is no longer protected.

I understand that the Houston ISD will not receive compensation for its disclosure of the information. I understand that I may refuse to sign this authorization and that my refusal to sign will not affect my ability to obtain treatment. I may inspect or copy any information disclosed under this authorization.

I understand that I may revoke this authorization at any time by providing written notification to the athletic trainer at the respective HISD stadium. I understand revocation will not have any effect on actions Houston ISD has taken in reliance on this authorization prior to receiving the revocation. This authorization expires six years from the date it is signed.

Name of School _____

Student ID# _____

Printed Name of Student _____

Student Signature _____

Printed Name of Parent _____

Parent Signature _____

Date _____

Symptoms for Concussion Referral

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 at the end of the game
13. Deterioration of neurological function*
14. Decreasing level of consciousness*
15. Decrease or irregularity in respiration*
16. Decrease or irregularity in pulse*
17. Unequal, dilated or unreactive pupils*
18. Any signs or symptoms of associated injures , spine or skull fracture or bleeding*
19. Mental status changes: lethargy, difficulty maintaining arousal, confusion, or agitation*
20. Seizure activity*

Note: * indicates that the athlete needs to be transported immediately to the nearest emergency department.

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 (i.e. sleep, cognition, depression, aggression, etc.)

Date _____

Dear Teacher,

_____, is returning to school after having sustained a concussion. A concussion is a complex injury to the brain caused by movement of the brain within the skull. Please observe this student during class. He/she may still be suffering from post concussion syndrome and may not be able to participate at their normal level. Some things you may notice are headaches, dizziness, nausea, lethargy, moodiness, blurred vision, poor concentration, mentally slow, depression, or aggression. These symptoms may be temporary or long lasting.

Because these symptoms may linger for an unspecified period of time, you may need to modify school work until he/she is symptom free. Also, if you see anything unusual, please notify me as soon as possible, or contact the school nurse. I will keep you informed of any medical updates that are pertinent to the classroom. The school nurse is aware of the injury, and you may consult with her at any time. Also his/her counselors and the appropriate administrators are aware of the injury.

You are an important member of the team that is treating _____ for their head injury. The physician and I only get a small snapshot of his daily activity. Therefore, any information that you can pass along to us is both appreciated and necessary to the successful recovery from the concussion.

If you have any further questions, please contact me.

Name _____

Title _____

Phone Number _____

Email _____

References

1. McCrory, Paul, et al. Summary & Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004; Clinical Journal of Sports Medicine, March 2005
2. Guskiewicz, Kevin M, et al. National Athletic Trainers Association Position Statement: Management of Sport-Related Concussion; Journal of Athletic Training, Sept. 2004
3. www.ImPacttest.com
4. www.healthsystem.virgina.edu/internet/neurogram
5. www.cdc.org
6. www.brainline.org
7. www.momsteam.com./healthsafety/concussion
8. Presbyterian Sports Network, Sports Concussion Management Protocol

Name: _____ Sport: _____ Date of Injury: _____

[ ] Appears to be dazed or stunned [ ] Is confused about assignment [ ] Forgets plays [ ] Is unsure of game, score, or opponent [ ] Moves clumsily [ ] Answers questions slowly [ ] Loses consciousness (even temporarily) [ ] Shows behavior or personality change [ ] Forgets events prior to hit (retrograde amnesia) [ ] Forgets events after hit (anterograde amnesia)	[ ] Headache [ ] Nausea [ ] Balance problems or dizziness [ ] Double or fuzzy vision [ ] Sensitivity to light or noise [ ] Feeling sluggish [ ] Feeling "foggy" [ ] Change in sleep pattern [ ] Concentration or memory problems

Observations reported by (name): _____ **Title:** _____

RETURN TO PLAY GUIDELINES

Athletes must complete the following stepwise process prior to return to play following a concussion:

1. **Removal from contest following any signs/symptoms of concussion**
2. **No return to play in current game**
3. **Medical evaluation following injury**
4. **Stepwise return to play once medically cleared**
    a. No activity until symptom free at rest
    b. DAY 1 - Light aerobic exercise
    c. DAY 2 – Moderate aerobic exercise with resistance training
    d. DAY 3 - Sport-specific training (heavy exertion – non-contact training & drills/non-contact practice)
    e. DAY 4 – Full practice – light contact (sleds in football, heading in soccer)
    f. DAY 5 - Full-contact drills (minimum 7 days post-injury)
    g. DAY 6 - Game play

    NOTE – Athlete activity progression continues as along as athlete is asymptomatic at current level. If athlete experiences any post concussion symptoms, stop physical activity until symptom free for 24 hours. Resume with phase or level in which they were previously asymptomatic.

I, (print)_____, the parent/guardian AND the above student athlete have acknowledged that the student has completed the requirements of the return-to-play protocol necessary for the student to return to play; have provided the treating physician 's written statement to the person responsible for compliance with the return-to-play protocol and the person who has supervisory responsibilities under; and by signing this consent form indicating that the person signing: has been informed concerning and consents to the student participating in returning to play in accordance with the return-to-play protocol; understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return-to-play protocol; consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician's written statement and, if any, the return-to-play recommendations of the treating physician; and understands the immunity provisions under Section 38.159.

Parent Signature: _____ **Date:** _____

Student Signature: _____ **Date:** _____

PHYSICIAN INFORMATION

Physician's Recommendations:

Physician's Signature: _____ ***Date:*** _____ **Phone:** _____

SCAT2

Sport Concussion Assessment Tool 2

Name _____

Sport/team _____

Date/time of injury _____

Date/time of assessment _____

Age _____ Gender M F

Years of education completed _____

Examiner _____

What is the SCAT2?[1]

This tool represents a standardized method of evaluating injured athletes for concussion and can be used in athletes aged from 10 years and older. It supersedes the original SCAT published in 2005[2]. This tool also enables the calculation of the Standardized Assessment of Concussion (SAC)[3,4] score and the Maddocks questions[5] for sideline concussion assessment.

Instructions for using the SCAT2

The SCAT2 is designed for the use of medical and health professionals. Preseason baseline testing with the SCAT2 can be helpful for interpreting post-injury test scores. Words in Italics throughout the SCAT2 are the instructions given to the athlete by the tester.

This tool may be freely copied for distribtion to individuals, teams, groups and organizations.

What is a concussion?

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific symptoms (like those listed below) and often does not involve loss of consciousness. Concussion should be suspected in the presence of **any one or more** of the following:

- Symptoms (such as headache), or
- Physical signs (such as unsteadiness), or
- Impaired brain function (e.g. confusion) or
- Abnormal behaviour.

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

Symptom Evaluation

How do you feel?

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

	none	mild		moderate			severe
Headache	0	1	2	3	4	5	6
"Pressure in head"	0	1	2	3	4	5	6
Neck Pain	0	1	2	3	4	5	6
Nausea or vomiting	0	1	2	3	4	5	6
Dizziness	0	1	2	3	4	5	6
Blurred vision	0	1	2	3	4	5	6
Balance problems	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
Feeling slowed down	0	1	2	3	4	5	6
Feeling like "in a fog"	0	1	2	3	4	5	6
"Don't feel right"	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
Fatigue or low energy	0	1	2	3	4	5	6
Confusion	0	1	2	3	4	5	6
Drowsiness	0	1	2	3	4	5	6
Trouble falling asleep (if applicable)	0	1	2	3	4	5	6
More emotional	0	1	2	3	4	5	6
Irritability	0	1	2	3	4	5	6
Sadness	0	1	2	3	4	5	6
Nervous or Anxious	0	1	2	3	4	5	6

Total number of symptoms (Maximum possible 22)

Symptom severity score
(Add all scores in table, maximum possible: 22 x 6 = 132)

Do the symptoms get worse with physical activity? Y N
Do the symptoms get worse with mental activity? Y N

Overall rating

If you know the athlete well prior to the injury, how different is the athlete acting compared to his / her usual self? Please circle one response.

no different very different unsure

Cognitive & Physical Evaluation

1 Symptom score (from page 1)

22 **minus** number of symptoms _____ of 22

2 Physical signs score

Was there loss of consciousness or unresponsiveness? Y N
If yes, how long? _____ minutes
Was there a balance problem/unsteadiness? Y N

Physical signs score (1 point for each negative response) _____ of 2

3 Glasgow coma scale (GCS)

Best eye response (E)

No eye opening	1
Eye opening in response to pain	2
Eye opening to speech	3
Eyes opening spontaneously	4

Best verbal response (V)

No verbal response	1
Incomprehensible sounds	2
Inappropriate words	3
Confused	4
Oriented	5

Best motor response (M)

No motor response	1
Extension to pain	2
Abnormal flexion to pain	3
Flexion/Withdrawal to pain	4
Localizes to pain	5
Obeys commands	6

Glasgow Coma score (E + V + M) _____ of 15

GCS should be recorded for all athletes in case of subsequent deterioration.

4 Sideline Assessment – Maddocks Score

"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

At what venue are we at today?	0 1
Which half is it now?	0 1
Who scored last in this match?	0 1
What team did you play last week/game?	0 1
Did your team win the last game?	0 1

Maddocks score _____ of 5

Maddocks score is validated for sideline diagnosis of concussion only and is not included in SCAT 2 summary score for serial testing.

5 Cognitive assessment

Standardized Assessment of Concussion (SAC)

Orientation (1 point for each correct answer)

What month is it?	0 1
What is the date today?	0 1
What is the day of the week?	0 1
What year is it?	0 1
What time is it right now? (within 1 hour)	0 1

Orientation score _____ of 5

Immediate memory

"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."

Trials 2 & 3:

"I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before."

Complete all 3 trials regardless of score on trial 1 & 2. Read the words at a rate of one per second. Score 1 pt. for each correct response. Total score equals sum across all 3 trials. Do not inform the athlete that delayed recall will be tested.

List	Trial 1	Trial 2	Trial 3	Alternative word list		
elbow	0 1	0 1	0 1	candle	baby	finger
apple	0 1	0 1	0 1	paper	monkey	penny
carpet	0 1	0 1	0 1	sugar	perfume	blanket
saddle	0 1	0 1	0 1	sandwich	sunset	lemon
bubble	0 1	0 1	0 1	wagon	iron	insect
Total						

Immediate memory score _____ of 15

Concentration

Digits Backward:

"I am going to read you a string of numbers and when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7."

If correct, go to next string length. If incorrect, read trial 2. One point possible for each string length. Stop after incorrect on both trials. The digits should be read at the rate of one per second.

		Alternative digit lists		
4-9-3	0 1	6-2-9	5-2-6	4-1-5
3-8-1-4	0 1	3-2-7-9	1-7-9-5	4-9-6-8
6-2-9-7-1	0 1	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3
7-1-8-4-6-2	0 1	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6

Months in Reverse Order:

"Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November ... Go ahead"

1 pt. for entire sequence correct

Dec-Nov-Oct-Sept-Aug-Jul-Jun-May-Apr-Mar-Feb-Jan 0 1

Concentration score _____ of 5

[1] This tool has been developed by a group of international experts at the 3rd International Consensus meeting on Concussion in Sport held in Zurich, Switzerland in November 2008. The full details of the conference outcomes and the authors of the tool are published in British Journal of Sports Medicine, 2009, volume 43, supplement 1.
The outcome paper will also be simultaneously co-published in the May 2009 issues of Clinical Journal of Sports Medicine, Physical Medicine & Rehabilitation, Journal of Athletic Training, Journal of Clinical Neuroscience, Journal of Science & Medicine in Sport, Neurosurgery, Scandinavian Journal of Science & Medicine in Sport and the Journal of Clinical Sports Medicine.

[2] McCrory P et al. Summary and agreement statement of the 2nd International Conference on Concussion in Sport, Prague 2004. British Journal of Sports Medicine. 2005; 39: 196-204

[3] McCrea M. Standardized mental status testing of acute concussion. Clinical Journal of Sports Medicine. 2001; 11: 176-181

[4] McCrea M, Randolph C, Kelly J. Standardized Assessment of Concussion: Manual for administration, scoring and interpretation. Waukesha, Wisconsin, USA.

[5] Maddocks, DL; Dicker, GD; Saling, MM. The assessment of orientation following concussion in athletes. Clin J Sport Med. 1995;5(1):32–3

[6] Guskiewicz KM. Assessment of postural stability following sport-related concussion. Current Sports Medicine Reports. 2003; 2: 24-30

6 Balance examination

This balance testing is based on a modified version of the Balance Error Scoring System (BESS)[6]. A stopwatch or watch with a second hand is required for this testing.

Balance testing

"I am now going to test your balance. Please take your shoes off, roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of three twenty second tests with different stances."

(a) Double leg stance:

"The first stance is standing with your feet together with your hands on your hips and with your eyes closed. You should try to maintain stability in that position for 20 seconds. I will be counting the number of times you move out of this position. I will start timing when you are set and have closed your eyes."

(b) Single leg stance:

"If you were to kick a ball, which foot would you use? [This will be the dominant foot] *Now stand on your non-dominant foot. The dominant leg should be held in approximately 30 degrees of hip flexion and 45 degrees of knee flexion. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

(c) Tandem stance:

"Now stand heel-to-toe with your ***non-dominant foot*** *in back. Your weight should be evenly distributed across both feet. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

Balance testing – types of errors

1. Hands lifted off iliac crest
2. Opening eyes
3. Step, stumble, or fall
4. Moving hip into > 30 degrees abduction
5. Lifting forefoot or heel
6. Remaining out of test position > 5 sec

Each of the 20-second trials is scored by counting the errors, or deviations from the proper stance, accumulated by the athlete. The examiner will begin counting errors only after the individual has assumed the proper start position. **The modified BESS is calculated by adding one error point for each error during the three 20-second tests. The maximum total number of errors for any single condition is 10.** If a athlete commits multiple errors simultaneously, only one error is recorded but the athlete should quickly return to the testing position, and counting should resume once subject is set. Subjects that are unable to maintain the testing procedure for a minimum of **five seconds** at the start are assigned the highest possible score, ten, for that testing condition.

Which foot was tested: Left Right
(i.e. which is the **non-dominant** foot)

Condition	Total errors
Double Leg Stance (feet together)	of 10
Single leg stance (non-dominant foot)	of 10
Tandem stance (non-dominant foot at back)	of 10
Balance examination score (30 **minus** total errors)	of 30

7 Coordination examination

Upper limb coordination

Finger-to-nose (FTN) task: *"I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended). When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose as quickly and as accurately as possible."*

Which arm was tested: Left Right

Scoring: 5 correct repetitions in < 4 seconds = 1

Note for testers: Athletes fail the test if they do not touch their nose, do not fully extend their elbow or do not perform five repetitions. Failure should be scored as 0.

Coordination score of 1

8 Cognitive assessment

Standardized Assessment of Concussion (SAC)

Delayed recall

"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."

Circle each word correctly recalled. Total score equals number of words recalled.

List		Alternative word list	
elbow	candle	baby	finger
apple	paper	monkey	penny
carpet	sugar	perfume	blanket
saddle	sandwich	sunset	lemon
bubble	wagon	iron	insect

Delayed recall score of 5

Overall score

Test domain	Score
Symptom score	of 22
Physical signs score	of 2
Glasgow Coma score (E + V + M)	of 15
Balance examination score	of 30
Coordination score	of 1
Subtotal	of 70
Orientation score	of 5
Immediate memory score	of 5
Concentration score	of 15
Delayed recall score	of 5
SAC subtotal	of 30
SCAT2 total	of 100
Maddocks Score	of 5

Definitive normative data for a SCAT2 "cut-off" score is not available at this time and will be developed in prospective studies. Embedded within the SCAT2 is the SAC score that can be utilized separately in concussion management. The scoring system also takes on particular clinical significance during serial assessment where it can be used to document either a decline or an improvement in neurological functioning.

Scoring data from the SCAT2 or SAC should not be used as a stand alone method to diagnose concussion, measure recovery or make decisions about an athlete's readiness to return to competition after concussion.

Athlete Information

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.

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:

1. rest until asymptomatic (physical and mental rest)
2. light aerobic exercise (e.g. stationary cycle)
3. sport-specific exercise
4. non-contact training drills (start light resistance training)
5. full contact training after medical clearance
6. 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. Resistance training should only be added in the later stages.
Medical clearance should be given before return to play.

Tool	Test domain	Time	Score							
		Date tested								
		Days post injury								
		Symptom score								
		Physical signs score								
		Glasgow Coma score (E + V + M)								
SCAT2		Balance examination score								
		Coordination score								
		Orientation score								
		Immediate memory score								
SAC		Concentration score								
		Delayed recall score								
		SAC Score								
Total		**SCAT2**								
Symptom severity score (max possible 132)										
Return to play			Y	N	Y	N	Y	N	Y	N

Additional comments

Concussion injury advice (To be given to concussed athlete)

This patient has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. It is expected that recovery will be rapid, but the patient will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to this timeframe.

If you notice any change in behaviour, vomiting, dizziness, worsening headache, double vision or excessive drowsiness, please telephone the clinic or the nearest hospital emergency department immediately.

Other important points:

- **Rest and avoid strenuous activity for at least 24 hours**
- **No alcohol**
- **No sleeping tablets**
- **Use paracetamol or codeine for headache. Do not use aspirin or anti-inflammatory medication**
- **Do not drive until medically cleared**
- **Do not train or play sport until medically cleared**

Clinic phone number

Patient's name

Date/time of injury

Date/time of medical review

Treating physician

Contact details or stamp

Concussion Management Protocol 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 (c) of the Texas Education Code).

_____ _____

Student Name (Please Print) *School Name (Please Print)*

Designated school district official verifies:

Please Check

☐ The student has been evaluated by a treating physician selected by the student, their parent or other person with legal authority to make medical decisions for the student.

☐ The student has completed the Return to Play protocol established by the school district Concussion Oversight Team.

☐ The school has received a written statement from the treating physician indicating, that in the physician's professional judgement, it is safe for the student to return to play.

_____ _____

School Individual Signature *Date*

_____

School Individual Name (Please Print)

Parent, or other person with legal authority to make medical decisions for the student signs and certifies that he/she:

Please Check

☐ Has been informed concerning and consents to the student participating in returning to play in accordance with the return to play protocol established by the Concussion Oversight Team.

☐ Understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return to play protocol.

☐ Consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and 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.

☐ Understands the immunity provisions under Section 38.159 of the Texas Education Code.

_____ _____

Parent/Responsible Decision-Maker Signature *Date*

_____

Parent/Responsible Decision-Maker Name (Please Print)

HEADS·UP CONCUSSION IN HIGH SCHOOL SPORTS

A FACT SHEET FOR PARENTS

What is a concussion?

A concussion is a brain injury. Concussions are caused by a bump, blow, or jolt to the head or body. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

What are the signs and symptoms?

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days after the injury. If your teen reports ***one or more*** symptoms of concussion listed below, or if you notice the symptoms yourself, keep your teen out of play and seek medical attention right away.

Signs Observed by Parents or Guardians	Symptoms Reported by Athlete
• Appears dazed or stunned • Is confused about assignment or position • Forgets an instruction • Is unsure of game, score, or opponent • Moves clumsily • Answers questions slowly • Loses consciousness *(even briefly)* • Shows mood, behavior, or personality changes • Can't recall events *prior* to hit or fall • Can't recall events *after* hit or fall	• Headache or "pressure" in head • Nausea or vomiting • Balance problems or dizziness • Double or blurry vision • Sensitivity to light or noise • Feeling sluggish, hazy, foggy, or groggy • Concentration or memory problems • Confusion • Just not "feeling right" or is "feeling down"

How can you help your teen prevent a concussion?

Every sport is different, but there are steps your teens can take to protect themselves from concussion and other injuries.

- Make sure they wear the right protective equipment for their activity. It should fit properly, be well maintained, and be worn consistently and correctly.
- Ensure that they follow their coaches' rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.

What should you do if you think your teen has a concussion?

1. **Keep your teen out of play.** If your teen has a concussion, her/his brain needs time to heal. Don't let your teen return to play the day of the injury and until a health care professional, experienced in evaluating for concussion, says your teen is symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage, and even death.
2. **Seek medical attention right away.** A health care professional experienced in evaluating for concussion will be able to decide how serious the concussion is and when it is safe for your teen to return to sports.
3. **Teach your teen that it's not smart to play with a concussion.** Rest is key after a concussion. Sometimes athletes wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don't let your teen convince you that s/he's "just fine."
4. **Tell all of your teen's coaches and the student's school nurse about ANY concussion.** Coaches, school nurses, and other school staff should know if your teen has ever had a concussion. Your teen may need to limit activities while s/he is recovering from a concussion. Things such as studying, driving, working on a computer, playing video games, or exercising may cause concussion symptoms to reappear or get worse. Talk to your health care professional, as well as your teen's coaches, school nurse, and teachers. If needed, they can help adjust your teen's school activities during her/his recovery.

If you think your teen has a concussion:
Don't assess it yourself. Take him/her out of play. Seek the advice of a health care professional.

It's better to miss one game than the whole season.

For more information and to order additional materials ***free-of-charge***, visit: **www.cdc.gov/Concussion.**

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

June 2010

ATENCIÓN

CONMOCIONES CEREBRALES EN LOS DEPORTES DE LA ESCUELA SECUNDARIA

HOJA INFORMATIVA PARA LOS PADRES

¿Qué es una conmoción cerebral?

Una conmoción cerebral es una lesión en el cerebro causada por un golpe o una sacudida en la cabeza o el cuerpo. Incluso un golpeteo, un zumbido en la cabeza, o lo que parece ser un golpe o una sacudida leve puede ser algo grave.

¿Cuáles son los signos y síntomas?

La conmoción cerebral no se puede ver. Los signos y síntomas de una conmoción cerebral pueden aparecer justo después de una lesión o puede que no aparezcan o se noten sino hasta después de días de ocurrida la lesión. Si su hijo adolescente le informa sobre ***algún*** síntoma de conmoción cerebral de los especificados a continuación, o si usted nota los signos, no permita que su hijo juegue y busque atención médica de inmediato.

Signos que notan los padres o tutores	Síntomas que reporta el atleta
• El atleta luce aturdido o desorientado • Está confundido en cuanto a su posición o lo que debe hacer • Olvida las instrucciones • No se muestra seguro del juego, de la puntuación ni de sus adversarios • Se mueve con torpeza • Responde a las preguntas con lentitud • Pierde el conocimiento *(aunque sea por poco tiempo)* • Muestra cambios de humor, conducta o personalidad • No puede recordar lo ocurrido *antes* o después de un golpe o una caída	• Dolor de cabeza o "presión" en la cabeza • Náuseas o vómitos • Problemas de equilibrio o mareo • Visión borrosa o doble • Sensibilidad a la luz y al ruido • Debilidad, confusión, aturdimiento o estado grogui • Problemas de concentración o de memoria • Confusión • No se "siente bien" o se siente "desganado"

¿Cómo puede ayudar a su hijo adolescente para que evite una conmoción cerebral?

Cada deporte es diferente, pero hay una serie de medidas que su hijo puede tomar para protegerse de las conmociones cerebrales.

- Asegúrese de que use el equipo de protección adecuado para la actividad. El equipo debe ajustarse bien y estar en buen estado, y el jugador debe usarlo correctamente y en todo momento.
- Controle que siga las reglas que imparta el entrenador y las reglas del deporte que practica.
- Invítelo a mantener el espíritu deportivo en todo momento.

¿Qué debe hacer si cree que su hijo adolescente ha sufrido una conmoción cerebral?

1. No permita que su hijo siga jugando. Si su hijo sufre una conmoción cerebral, su cerebro necesitará tiempo para sanarse. No permita que su hijo regrese a jugar el día de la lesión y espere a que un profesional de la salud, con experiencia en la evaluación de conmociones cerebrales, indique que ya no presenta síntomas y que puede volver a jugar. Una nueva conmoción cerebral que ocurra antes de que el cerebro se recupere de la primera, generalmente en un periodo corto (horas, días o semanas), puede retrasar la recuperación o aumentar la probabilidad de que se presenten problemas a largo plazo. En casos poco frecuentes, las conmociones cerebrales repetidas pueden causar edema (inflamación del cerebro), daño cerebral permanente y hasta la muerte.

2. Busque atención médica de inmediato. Un profesional de la salud con experiencia en la evaluación de las conmociones cerebrales podrá determinar la gravedad de la conmoción cerebral que ha sufrido su hijo adolescente y cuándo podrá volver a jugar sin riesgo alguno.

3. Enséñele a su hijo que no es sensato jugar con una conmoción cerebral. Descansar es fundamental después de una conmoción cerebral. Algunas veces los atletas creen equivocadamente que jugar lesionado es una demostración de fortaleza y coraje. Convenza a los demás de que no deben presionar a los atletas lesionados para que jueguen. No deje que su hijo adolescente lo convenza de que está "bien".

4. Avíseles a todos los entrenadores de su hijo y a la enfermera de la escuela sobre *cualquier* conmoción cerebral. Los entrenadores, las enfermeras escolares y otros miembros del personal de la escuela deben saber si su hijo adolescente *alguna vez* tuvo una conmoción cerebral. Su hijo debe limitar sus actividades mientras se recupera de una conmoción cerebral. Ciertas actividades como estudiar, manejar, trabajar en la computadora, jugar video juegos o hacer ejercicio pueden provocar que los síntomas de una conmoción cerebral vuelvan a aparecer o empeoren. Hable con su proveedor de atención médica y también con los entrenadores, las enfermeras de la escuela y los profesores de su hijo adolescente. De ser necesario, estas personas pueden colaborar en la adaptación de las actividades de su hijo durante su recuperación.

Si usted cree que su hijo adolescente ha sufrido una conmoción cerebral:

No trate de evaluarlo usted mismo. Haga que salga del juego. Busque atención médica de un profesional de la salud.

Es preferible perderse un juego que toda la temporada.

Para obtener más información y solicitar más materiales ***de forma gratuita***, visite: **www.cdc.gov/Concussion**.

DEPARTAMENTO DE SALUD Y SERVICIOS HUMANOS DE LOS EE. UU.
CENTROS PARA EL CONTROL Y LA PREVENCIÓN DE ENFERMEDADES

Junio 2010