UNIVERSITY OF IOWA

SPORT CONCUSSION POLICY
(Updated 04/16/2019)
Approved by Division 1 Concussion Safety Committee
June 29th 2018

Definition/Recognition:

A concussion is defined as a traumatically induced transient disturbance of brain function and is caused by a complex pathophysiological process (concussion is a change in function, following a force to the head, which may be accompanied by temporary loss of consciousness, but is identified in awake individuals, with measures of neurological and cognitive dysfunction,(NCAA p3)). It can result from either direct or indirect head trauma. Concussions have also been referred to as mild traumatic brain injuries (MTBI). While all concussions are MTBIs, not all MTBIs are concussions. Concussions are a subset of MTBIs, on the less-severe end of the brain injury spectrum, and are generally self-limited in duration and resolution. MTBI's and concussions can be recognized by several common signs and symptoms:

Physical	Cognitive	Emotional	Sleep
-Headache	-Feeling mentally 'foggy'	-Irritable	-Drowsiness
-Nausea	-Feeling slowed down	-Sadness	-Sleep more than usual
-Vomiting	-Difficulty concentrating	-More emotional	-Sleep less than usual
-Balance problems	-Difficulty remembering	-Nervousness	-Difficulty falling asleep
-Dizziness	-Forgetful of recent information and conversations		
-Visual problems			
-Fatigue			
-Sensitivity to light	-Confused about recent events		
-Sensitivity to noise			
-Numbness/tingling	-Answers questions slowly		
-Dazed			
-Stunned	-Repeats questions		

Most sport related concussions do not result in loss of consciousness, so any impact to the head and face should be evaluated carefully for signs and symptoms of concussion. Often a concussed athlete is unaware of his or her injury and in some instances may attempt to hide the injury. Coaches and teammates should assist in identifying athletes who sustain a concussion and report any significant head impacts and/or unusual behavior to the medical staff. Modifying factors and co-morbidities including but not limited to hyperactivity disorder, migraine and other headache disorders, learning disabilities, and mood disorders should be considered when diagnosing and returning to play.

Any SA withthe signs,/symptoms/behaviours consistent withconcussion is suspected, the University of Iowa Sports Medicine Staff will follow a three-point approach to initial evaluation.

1. Immediate removal from practice or competition. If other injuries are present, or suspected, first aid will be administered.

2. An initial sideline assessment consisting of a symptom score, cognitive assessment, coordination assessment and balance assessment will be performed using the Sideline Concussion Assessment Tool version 3 (SCAT5).

3. If the medical staff determines that the student athlete has not sustained a concussion, the student athlete may return to practice or competition. No student athlete who has sustained a concussion will return to practice or competition until they are asymptomatic, have returned to baseline on their SCAT5 and/or ImPACT assessments and have successfully completed the graduated return to play protocol.

The University of Iowa Sports Medicine Staff (physicians employed by UIHC & athletic trainers employed by athletic department) has adopted a comprehensive approach to managing sport related concussions that entails an educational component, a baseline procedure and a treatment protocol for all designated teams and other individuals so designated at the University of Iowa.

UI Concussion Policy

1. Prior to full participation in intercollegiate athletics at the University Iowa, SAs complete a PPE with a designated University of Iowa Team Physician. During this time review of the SAs medical history including head trauma occurs. Participation in intercollegiate athletics is determined by the Team Physician and takes into account previous and current medical conditions including head trauma and concussion.
2. All University of Iowa student-athletes will read the NCAA concussion fact sheet as well as the Big 10 Injury and Illness Reporting Acknowledgement Form at designated times annually. The student-athlete must sign an attached sheet indicating they have read the two documents and accept responsibility for reporting their injuries and illness to the medical staff. The concussion information will be presented by a staff ATC and they will be available to answer questions. The University of Iowa Sports Medicine staff will be responsible to assist the compliance staff in answering any questions student-athletes might have regarding the concussion fact sheet and the injury reporting form.
3. All University of Iowa coaches (including assistant coaches and strength and conditioning coaches) must read the NCAA concussion fact sheet as well as the Big 10 Injury and Illness Reporting Acknowledgement Form. They will then sign a sheet annually indicating they understand the form and they will report any suspected injuries or illness to the University of Iowa Medial Staff, including any signs or symptoms of a concussion. The UI Athletics Compliance Department will be responsible for coordinating the signing of all necessary documents by coaches.
4. The University of Iowa Sports Medicine staff, physicians, athletic trainers, graduate assistants, and athletic training students must have access to the NCAA concussion fact sheet and the Big 10 Injury and Illness Reporting Acknowledgement. The staff or student must sign a sheet indicating they have read the forms and agree to encourage their student-athletes to report any suspected illness or injury to the sports medicine staff, including signs and symptoms of concussions.
5. Medical personnel (ATC and/or Team Physician) trained in the diagnosis treatment and initial management of acute sport-related concussion will be present for practices in the following contact/collision sports: Football, Baseball, Cheerleading, Field Hockey, Men's & Women's Basketball, Men's and Women's Gymnastics, Men's & Women's pole vault, Softball, Women's Soccer, Men's and Women's Diving, Volleyball and Wrestling. To be available means that, at a minimum, medical personnel can be contacted at any time during the practice via telephone, messaging, email, beeper or other immediate communication means. Further, the case can be discussed through such communication, and immediate arrangements can be made for the athlete to be evaluated.
6. Medical personnel (ATC and/or Team Physician) trained in the diagnosis treatment and initial management of acute sport-related concussion will be present for competitions in the following contact/collision sports: Football, Baseball, Cheerleading, Field Hockey, Men's & Women's Basketball, Men's and Women's Gymnastics,

Men's & Women's pole vault, Softball, Women's Soccer, Men's and Women's Diving, Volleyball and Wrestling. To be present means to be on site at the campus or arena of the competition. Medical personnel may be from either team, or may be independently contracted for the event.

7. The Director of Sports Medicine and Assistant AD Sports Medicine/Sports Performance, or their designee, will coordinate the signing of all necessary documents on an annual basis for physicians and athletic trainers.
8. The Athletic Training Department, and UI Compliance will keep the signed documents, along with the established UI Concussion Policy, on file.
9. The UI Concussion Policy will be reviewed and updated annually by the Assistant AD Sports Medicine/Sports Performance, Director of Sports Medicine, or their designee, and made readily accessible to all coaches and service staff.

UI Concussion Management Protocol

In order to provide consistent management of this sports-related injury, the University of Iowa Sports Medicine team has developed the following management protocol.

Every new student-athlete will undergo a pre-season baseline assessment for concussion. Any athlete in any sport who sustains a concussion will undergo baseline testing prior to the beginning of their next season and this baseline will be used for subsequent comparisons. The baseline assessment will consist of:

Brain injury/concussion history
Symptom evaluation
Balance Assessment
Computerized Neuropsychological Test (ImPACT)

The athletic trainer for each team will conduct the balance assessment and ImPACT test for all new student-athletes on their team. A copy of these test results will be kept on file for access during practice and competitions at all home and away venues.

If a student-athlete (SA) is diagnosed with a concussion, the team physician (TP) and athletic trainer (AT) will coordinate to provide an individualized treatment plan and sport-specific return to play protocol in accordance with the latest International Consensus Concussion Guidelines. The following steps apply:

1. The AT assigned to work the event will evaluate the injured student-athlete with the SCAT5. A complete SCAT5 is not required if the athlete is severely impaired and obviously concussed.
    a. Emergency action plan, including transportation for further medical care, for any of the following:
        i. Glasgow Coma Scale < 13.
        ii. Prolonged loss of consciousness (>1 minute).
        iii. Focal neurological deficit suggesting intracranial trauma.
        iv. Repetitive emesis.
        v. Persistently diminished/worsening mental status or other neurological signs/symptoms.
        vi. Cervical spine. If the cervical spine is injured physical and neurological assessment of the cervical spine will be completed
    b. Activate Emergency Action Plan

i. Call (911) activate EMS.
ii. Stabilize and monitor patient.
iii. Transport patient by EMS.
iv. Notify designated team physicians and administrators.

2. The AT will notify a TP to discuss test results and enact the evaluation plan. If the TP is present, they will be responsible for directing the evaluation process and approving a treatment plan. Provide the SA and/or responsible adult with the post-concussion plan/information document.
3. No same day return to play will be permitted for any SA who sustains a concussion.
4. The SA will be withheld from all sport related activities (practice, competition, conditioning, or other training) and encouraged to maximize physical and cognitive rest. Sub-symptom aerobic exercise may be used for rehabilitative purposes, but sport-related activities will not resume until the athlete is asymptomatic. The TP may encourage the SA to refrain from going to class and/or from participating in any other physically or cognitively demanding activity.
5. Routine neuroimaging is not recommended for evaluation of a concussion. However, in cases of prolonged or worsening disturbance of consciousness, progressive symptoms or physical signs or in the presence of focal neurologic deficits, the TP may order neuroimaging.
6. The SCAT5 Symptom Evaluation will be checked every 24-48 hours until the SA is asymptomatic or returns to baseline and prior to advancing to each stage in the return to play protocol.
7. Once asymptomatic for 24 hours or as designated by the TP, ImPACT computer-based Neuropsychological testing will be completed by the SA under the supervision of the AT. Note that ImPACT will not be used to "diagnose a concussion." Concussion is a clinical diagnosis and no diagnostic testing will be used to confirm or refute the professional opinion of the medical staff.
8. The TP will review ImPACT and evaluate the SA. If the athlete has not returned to his or her neurocognitive or clinical baseline, cognitive and physical rest will be continued. ImPACT and/or clinical evaluation will be repeated on an individual basis, typically every 24 to 48 hours
9. Through each stage of the graduated return to play protocol, the AT will evaluate the SA for any recurrence of symptoms using the SCAT5 Symptom Evaluation. If symptoms recur, the SA will not progress to the next stage of the graduated RTP protocol.
10. The TP and AT will encourage cognitive rest, oral hydration, proper nutrition and good sleep hygiene throughout the management protocol.
11. The SA must complete the entire graduated RTP protocol prior to returning to any competition.
12. The SA will not to return to physical activity, practice or competition before returning to a regular academic schedule.
13. The AT and TP will document results in the SAs medical record.
14. A new baseline concussion assessment will be established for SAs that have sustained a concussion in the previous competitive season before the next competitive season.

Graduated Return to Play Protocol (RTP)

Once symptom-free for 24 hours and ImPACT scores are acceptable to the TP, the SA is allowed to engage in the following AT-supervised sport-specific graded return to play protocol. The SA must remain symptom free for approximately 24 hours before advancing to the next step. If, at any point in the RTP protocol, the SA experiences return of their concussion symptoms, the activity will be stopped, the athlete will be rested for at least 24 hours or until symptoms resolve (whichever is longer). When the SA is again asymptomatic, he or she may resume the RTP protocol at their previous highest symptom-free level. Final determination of return-to-play is from the team physician or medically qualified physician designee.

1.Complete physical and cognitive rest until asymptomatic, normalized SCAT5 (if applicable) and return to ImPACT baseline (if applicable).

2.Light aerobic exercise (e.g. walking, swimming, stationary bike, etc.). First easy, then harder.

3.Sport-specific exercise (e.g. mode, duration, & intensity). First easy, then harder (no head impacts during this phase).

4.Non-contact training drills (e.g. passing drills in football or hockey) and strength training (if applicable).

5.Full contact practice

6.Normal game play

Return to Learn (RT)

Upon assessment of a SA suspected of having a concussion Associate Athletics Director for Student-Athlete Academic Services (Liz Tovar, PhD) should be notified. Athletics Academic Services should be kept informed of the SAs progress in relation to return to learn activities in an ADAAA-compliant manner. A multi-disciplinary team will navigate more complex cases of prolonged return to learn. This team may include, but is not limited to, the TP, AT, faculty athletic representative and neuropsychologist consultant.

1. Academic modifications up to 2 weeks will be determined by the TP or AT. The SA will have no classroom activity on the same day as a concussion, and may remain at home/dorm if light cognitive activities are not tolerated.
2. Once the SA can tolerate cognitive activity the SA should return to the classroom, often in graduated increments.
3. Prior to the SA being cleared for full participation, feedback from the Associate Athletics Director for Student-Athlete Academic Services should provide verification that the SA is participating in normal academic activities.
4. The Associate Athletics Director for Student-Athlete Academic Services will engage campus resources for prolonged cases. Such resources may include learning specialists and will be consistent with ADAAA. The TP will re-evaluate the SA if concussion symptoms worsen with academic challenges, or if symptoms last greater than 2 weeks, at which point a multi-disciplinary evaluation may also be utilized.

Post-Concussion Syndrome

Post-concussion syndrome, or persistent concussive symptoms, is a rare complication of concussion. There are medical and rehabilitative techniques that may be useful in the treatment of a student athlete with persistent symptoms. Any student athlete who has been symptomatic for over one month will be evaluated in the IOSMR concussion clinic. While most athletes who have been symptomatic for less than one month will not need to be evaluated in the IOSMR concussion clinic, any athlete with a concussion or history of concussion may be seen at the request of the athlete, coaches, team physician or athletic training staff.

Pharmacologic treatment of concussion symptoms is controversial. Initiation of pharmacologic treatment of concussion symptoms by any team physician will require the approval of a second member of the Primary Care Sports Medicine Staff.

Any SA who experiences multiple concussions, demonstrates a low threshold to concussive injury or experiences progressively severe injuries with subsequent concussions will discuss the possibility of retiring from athletics with the team physician.

The team physician, in consultation with the Director of Sports Medicine and Director of Athletic Training Services, reserves the right to permanently disqualify any student athlete with persistent signs or symptoms of concussion, multiple concussions, low concussion threshold and/or progressively severe episodes of concussion.

Reducing Head Trauma Exposure Management Plan

1. Adherence to Inter-Association Consensus: Independent Medical Care Guidelines.
2. Taking a 'safety first' approach to sport.
3. Coaching and student-athlete education regarding safe play and proper technique.

Reference

1. McCrory P et al. Consensus Statement on Concussion in Sport: The 4th International Conference on Concussion in Sport Held in Zurich, November 2012. Br J Sports Med May 2013;47:250-258.
2. The University of North Carolina at Chapel Hill Sport Concussion Policy, developed by the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Center and Division of Sports. August 1, 2010.
3. Harmon KG, et al. American Medical Society for Sports Medicine Position Statement: Concussion in Sport. Br J Sports Med. Jan 2013;47:15-26.
4. NCAA: Concussion guidelines. http://www.ncaa.org/health-and-safety/sport-science-institute/introduction-mind-body-and-sport.
5. NCAA Concussion: Return-to-Learn Guidelines: NCAA: Independent medical care guidelines. http://www.ncaa.org/health-and-safety/independent-medical-care-guidelines.
6. NCAA Concussion: Return-to-Learn Guidelines: http://www.ncaa.org/health-and-safety/medical-conditions/concussion-return-learn-guidelinesNCAA Concussion: Return-to-Learn Guidelines.
7. National Athletic Trainers' Association Position Statement: Management of Sport Concussion. *Journal of Athletic Training,* 2014; 49(2): 245-265.