

**NIAGARA UNIVERSITY  
CONCUSSION  
MANAGEMENT  
PLAN**



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# NIAGARA UNIVERSITY

## CONCUSSION POLICY SUMMARY

Niagara University developed a universal Concussion Policy designed to maximize the neurological health of our students, student-athletes, and club-sport athletes by providing a framework of education and clinical management. The policy was designed under the principle that each concussion injury, and each individual, is unique. Optimum medical care depends on an individualized and comprehensive approach to concussion management.

This policy has been formed by a collaborative effort between NU Athletics and NU Student Health Services. The policy is used campus wide for all concussion injuries sustained at NU (on campus and/or any athletic activities). This policy is reviewed and evaluated on an annual basis to remain in best practice with the current topic of concussions.

- 1. Education:** Every student-athlete, club-sport athlete, and coach receives concussion education through fact sheets provided by the NCAA, and on-line videos on the athletic training link on the NU Athletics web-site. Topics include information on what a concussion is, prevention, signs and symptoms, and recognizing a possible concussion.
- 2. Baseline Testing:** Prior to each season, all NU Division I incoming freshmen and/or transfer student-athletes will be given a baseline neurocognitive exam utilizing the ImPact test and the Balance Error Scoring System (BESS)

test. Club-sport athletes who participate in a collision or contact sports will be given a baseline ImPact and BESS test. The ImPact test was added in 2014 to further enhance our concussion evaluation and management.

**3. Evaluation and Management:** If a player is suspected of having a concussion, or exhibits any signs or symptoms of concussion, they will be **REMOVED** from participation and undergo evaluation by the medical staff.

- If a student-athlete/club-sport athlete is diagnosed with a concussion, he/she **will not return** to participation on that same day.
- A student-athlete/club-sport athlete that is diagnosed with a concussion should have their physical and cognitive exertion limited as much as possible while they are experiencing symptoms.

**4. Return-to-Play Decisions:** Any student-athlete and/or club-sport athlete who is diagnosed with a concussion shall be held out of all activity until symptom-free at rest and exertion until there is no appreciable difference from their baseline neurological exam score on the ImPact Test and BESS.

- The concussed student-athlete/club-sport athlete may not return to participation until they are asymptomatic at rest and has successfully completed the Graduated Return-to-Play Protocol.
- The final medical clearance for a student-athlete/club-sport athlete diagnosed with a concussion to return to athletics activity shall be determined by the Team Physician or the Physician's designee.
- It is important to note that there is no timeframe to complete the protocol. Each injury and player is different and recovery time can vary in each case.

# Concussion Management Plan

## Concussion Definition:

Concussion or mild traumatic brain injury (mTBI) has been defined as “a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces.” Although concussion most commonly occurs after a direct blow to the head, it can occur after a blow elsewhere that is transmitted to the head. Concussions can be defined by the clinical features, pathophysiological changes and/or biomechanical forces that occur.

Niagara University Sports Medicine adheres to the current NCAA Concussion Policy and Legislation. In addition, Niagara University, as a member institution in the Metro Atlantic Athletic Association, has opted to comply with the NCAA Concussion Safety Protocol Checklist. All members of the Niagara University Sports Medicine staff will provide care within the scope of their established professional practice. All of the concussion management progression lies exclusively with the Niagara University Sports Medicine Staff. The Team Physician will make the final determination of return-to-play once asymptomatic, has a stable medical examination and post-exertion assessments are within normal limits.

The entire concussion management process for the student-athlete, from the baseline assessment, initial post-injury evaluation, and eventual return to full athletic participation, including any diagnostic testing, shall be documented within their medical file.

## Education:

As a part of NCAA Compliance, each student-athlete will be required to annually sign and verify that they have received, read, and understand the information provided in the NCAA document; **Concussion: A Fact Sheet for student-athletes** (Appendix I), prior to athletic activity. This document on concussions includes the definition of a concussion, how to prevent concussion, the symptoms of a concussion, and how to report any concerns for themselves, or a teammate regarding a concussion.

All Niagara University Coaches, Athletic Trainers, Strength and Conditioning Coaches, Team Physicians, Director of Athletics, and any professional staff member involved in the care of the S-A will be required to sign an **Athletic Staff Concussion Statement Acknowledgement** (Appendix J) annually stating that they have received, read, and understand the information provided by the NCAA document; **Concussion: A Fact Sheet for Coaches** (Appendix K). Educational sessions for coaches shall occur on an annual basis prior to the beginning of fall sports and shall include information on a “safety first” approach and reducing physical contact which may cause potential injury to the head and neck.

## Baseline Testing:

All incoming freshman and/or transfer student-athletes who participate in any sport will be given a baseline exam utilizing the ImPact test (Immediate Post-Concussion Assessment and Cognitive Testing). The test is computerized and takes about 20 minutes to complete. A Balance Error Scoring System (BESS) evaluation will also be used during baseline testing. If a concussion is suspected, follow-up ImPact and BESS scores will be used during the recovery process to provide the most reliable measure of pre-injury performance. At the time of injury, ATC's will also utilize a Graded Symptom Checklist (GSC) to determine the extent of the student-athletes symptoms. The GSC will also be used during the recovery process. At the time of injury, ATC's and/or Team Physicians will utilize the ImPact, BESS, and GSC after injury to monitor progress and help determine return to play decisions. Annual concussion history will be taken and the athlete will be asked if any pertinent medical conditions exist. Student-Athletes with concussion history may have repeat baseline testing periodically upon the request of the Team Physician or Physician's Designee. The Team Physician will determine pre-participation clearance.

**The Verification of Injury/Illness (Appendix A), Head Injury Assessment (Appendix B), Head Injury Sheet (Appendix C), GSC (Appendix D), BESS (Appendix E), SAC (Appendix F), Return to Play Guidelines (Appendix G), SCAT 3 (Appendix H), Fact Sheet for Student-Athletes (Appendix I), Athletic Staff Concussion Acknowledgment (Appendix J), Fact Sheet for Coaches (Appendix K), and Notice of Concussion (Appendix L) can be found in: Appendixes A-L.**

### **Concussion Incident:**

When the rapid assessment of concussion is necessary (eg, during competition) a concussion evaluation tool (Standardized Assessment of Concussion (SAC), SCAT3 and/or BESS) could be used in conjunction with a motor-control evaluation and GSC to support the physical and neurologic clinical evaluation. Concussions are no longer graded based on the severity of symptoms. This means that the student-athlete should be checked on a regular basis to determine when the signs/symptoms have resolved enough to allow for a graded return to participation. **In any instance where a student-athlete exhibits signs, symptoms, or behaviors consistent with a concussion, they shall be immediately removed from competition and evaluated by the ATC and/or Team Physician.** If the student-athlete is deemed to have a concussion, they shall be prevented from returning to athletic activity for at least the remainder of that calendar day. Should symptoms worsen or not improve, appropriate referrals to the Team Physician and/or Emergency Room are recommended. ***Medical clearance for a student-athlete diagnosed with a concussion to return to athletics activity shall be determined by the Team Physician or the Physician's designee.***

### **Signs and Symptoms of Concussion:**

**Physical Symptoms:** Headache, Blurred Vision, Nausea/Vomiting, Dizziness, Balance Problems, Sensitivity to Light/Sound.

**Cognitive Symptoms:** Memory Loss, Difficulty Concentrating, Reasoning Difficulty, Loss of Consciousness, Disordered Sleep Patterns.

**Emotional Symptoms:** Irritability, Sadness, Nervousness, Anxiety.

**If no ATC or physician is present, then the coach will hold the athlete from participation and contact a member of the Athletic Training Staff to coordinate a treatment plan and set up an evaluation of this S-A. At no time should a S-A exhibiting signs and symptoms of a concussion return to participation the day of injury and shall not be cleared to play until seen by an ATC and/or Team Physician.**

If at any time, the S-A experiences a prolonged loss of consciousness, repetitive vomiting, focal neurological deficit suggesting intracranial trauma, deterioration in vital signs, Glasgow Coma Scale <13, or exhibits other significant signs and symptoms, including a suspected cervical spine injury, immediate stabilization and referral to an emergency room is advised. Precautions and appropriate evaluation for cervical spine injury shall be taken in the evacuation of individuals in these circumstances.

At the time of the concussion, the ATC and /or Team Physician will fill out a Head Injury Assessment form. Serial evaluation and monitoring will be performed following the injury. Also, both oral and written Home Care Guidelines will be given to the concussed S-A, and to a responsible adult (eg, parent or roommate) who will observe and supervise the S-A during the acute phase of the concussion. While the S-A is still symptomatic and recovering from a concussion, they are encouraged to rest both physically and mentally. Activities that require concentration and attention (school work, TV, video games, watching practice/games, etc.) may exacerbate symptoms and possibly delay recovery. The Team Physician may request that the S-A be excused from lectures and school work during this period. In cases where there is a prolonged recovery, re-evaluation by the team physician will be performed in order to consider additional diagnosis and best management options. All concussions occurring during an S-A's tenure at Niagara University shall be recorded in their respective file as well as SportsWare.

### **Post-Injury Testing:**

The GSC will be given within the first hour of injury and repeated every 24 hours until symptom free. A complete BESS test shall be utilized unless a foam pad is not readily available, in which case, only the floor portion will be used. Post-injury BESS tests shall be conducted every 24 hours until the S-A has equaled or surpassed the baseline test score. Further testing is at the discretion of the Team Physician or referred specialists. In addition, ATC supervised vestibular, vestibular proprioception, cervical range-of-motion, and sub-maximal exercise testing and/or training may be prescribed by the team physician in specific cases.

Post-injury ImPact testing will be utilized in all suspected concussed S-A's. Comparison of baseline scores will be made. Testing will not be conducted until the S-A reports s/he is symptom free. The first post-injury test will be conducted within 24 hours of the athlete reporting to be symptom free. Post-injury ImPact testing shall be reviewed and compared with the baseline test scores. Further ImPact testing shall occur upon the recommendation of the Team Physician or referred specialists.

## **Return to Play Guidelines:**

All concussion management will be handled on a case-by-case basis. **As per NCAA policy, the decision by the ATC and/or Team Physician to return the S-A to competition is final.** Once the S-A is determined to be back to baseline, they will begin a gradual return to participation. As the athlete progresses through each stage of the gradual return, they should be monitored by their ATC to ensure they are symptom free and ready for the next progression. If any symptoms recur, they are to rest until asymptomatic and then return to their last tolerated activity level. The return schedule is designed to increase their cardiovascular and sport specific activities in a gradual manner. These progressions are found in (Appendix G).

## **Academic Adjustment Guidelines:**

Student-athletes **shall be held** from attending academic classes and activities at least on the same day of the concussion incident. An individualized plan will be made to allow the student-athlete to remain at home and/or campus housing that day with a gradual approach to return to light cognitive activity as tolerated. For any concussion, the Academic Advisor for Student-Athletes will be notified in writing by forwarding the "Notice of Concussion" form (Appendix L). If the student will be impacted beyond 24 hours, any further class absences or academic/non-academic accommodations shall be requested through the Coordinator of Disability Services. The Sports Medicine Staff and/or Team Physician will provide documentation of the student-athletes' concussion, including the severity, the cognitive and functional limitations, and any recommended accommodations by completing the "Disability Services Concussion Verification" form. The student-athlete will be required to meet with the Coordinator of Disability Services to request and determine reasonable accommodations. The Coordinator of Disability Services shall act as a liaison between the student-athlete and the appropriate professors in circumstances where academic or non-academic accommodations are necessary. If the concussion symptoms worsen with academic challenges, re-evaluation by the team physician is warranted. The level of multi-disciplinary involvement, including the Team Physician, Athletic Trainer, Academic Advisor, Academic Support Office, Athletic Administrator, Coach, and individual professors, will vary on a case by case basis. **\*\*Niagara University complies with the American's with Disabilities Act (ADAAA).\*\***

## **Retirement Guidelines:**

The decision to permanently retire from competitive sports due to concussions and/or concussion related problems is a very complex one. Situations where this might be considered would include but not be limited to: a history of repeated concussions (particularly if there is evidence that smaller forces are sufficient to cause concussion), post-concussion symptoms that last more than 3 months, evidence of a head or neck lesion that would increase the risk of future concussion. This decision would include input from the S-A, their family, the athletic department (ATC's, Team Physician, Athletic Director), and the neurologist/neurophysiologist/concussion specialist.

# NIAGARA UNIVERSITY DEPARTMENT OF ATHLETICS

## Verification of Injury/Illness Incidence

I, \_\_\_\_\_ verify that I have been informed that I may be injured or become ill while participating in intercollegiate athletic practice, strength and conditioning sessions or competition. I understand that it is possible that I may sustain an injury or illness which may result in permanent disability, paralysis, or possibly death. I understand that paralysis may include loss of movement, feeling, and use of my arms, legs, and trunk. I further understand that paralysis may involve complete loss of bowel or bladder control which would require the insertion of external aids into my body for the collection and removal of body wastes. I understand that paralysis and its effects could last my entire lifetime. In addition, I understand that an injury to any of my body joints, ankle, hand, knee, hip, wrist, etc., may result in disfigurement, loss of movement, loss of strength, or loss of feeling which may last my entire lifetime.

- I understand that it is my responsibility to adhere to all rules and regulations of my chosen sport(s). I understand that infraction of the rules may result in injury to myself or my opponent. I also understand that it is my responsibility to wear all required protective equipment and that no modification of equipment or uniform is to be made. I also understand that I am not to touch an injured team mate or opponent as further injury may result.
- Further I understand that it my responsibility to report faulty or ill-fitting personal equipment immediately to my head coach. I also understand that I am to report potentially injurious hazards in or on athletic facilities and locker rooms immediately to my head coach.
- I understand and accept the responsibility of reporting all injuries and illnesses, including concussions, to the Certified Athletic Trainers and/or Athletic Team Physicians. I also understand that I am responsible for complying with the follow-up care and treatment of my injuries and illnesses under a supervision and direction of the Certified Athletic Trainers' and Athletic Team Physicians.
- The Sports Medicine Staff has posted educational materials on concussions on the Sports Medicine web-site. I understand the signs and symptoms of concussions may include:
  - **Amnesia** (loss of memory or recalling events)
  - **Confusion**
  - **Headache**
  - **Loss of consciousness**
  - **Balance problems or dizziness**
  - **Double or fuzzy vision**
  - **Sensitivity to light or noise**
  - **Nausea** (feeling that you might vomit)
  - **Feeling sluggish, foggy or groggy**
  - **Feeling unusually irritable**
  - **Concentration or memory problems**  
(forgetting game plays, facts, meeting times)
  - **Slowed reaction time**
- I also agree to perform any baseline testing for concussion management and evaluations requested by the Certified Athletic Trainers' and Athletic Team Physicians. I have read the above statement and verify this with my signature below.

\_\_\_\_\_  
**Student-Athlete Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Print Name**

\_\_\_\_\_  
**Sport(s)**

\_\_\_\_\_  
\*Age

\_\_\_\_\_  
\*Parent Signature (If Athlete is under 18 years old)

APPENDIX B

**HEAD INJURY ASSESSMENT**

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ DOI: \_\_\_\_\_

PREVIOUS HX: YES/NO. DATE(S): \_\_\_\_\_ . HOSPITALIZED: YES/NO

HOW LONG? \_\_\_\_\_ . TESTS PERFORMED: \_\_\_\_\_

MECHANISM OF INJURY: \_\_\_\_\_

\_\_\_\_\_

UNCONSCIOUS?, YES/NO. HOW LONG? \_\_\_\_\_ .

AMNESIA?, YES/NO, (IF YES, CIRCLE ONE) RETROGRADE/ ANTEGRADE

BLOOD PRESSURE: \_\_\_\_\_ . PULSE: \_\_\_\_\_ .

SIGNS/SYMPTOMS: SEE GRADED SYMPTOM CHECKLIST (GSC)

PALPATION: C-SPINE +/- \_\_\_\_\_ . C-SPINE ROM: WNL/ LIM/ PAIN

SPECIAL TESTS: (CRANIAL NERVE ASSESSMENT)

I: SMELL: +/- \_\_\_\_\_

II: VISION: +/- \_\_\_\_\_

III/IV/VI: PUPIL REACTION: +/- \_\_\_\_\_

EYE TRACKING: +/- \_\_\_\_\_

V/VII: FACIAL SENSATION: +/- \_\_\_\_\_

FACIAL EXPRESSIONS: +/- \_\_\_\_\_

VII: BALANCE (RHOMBERG): + / - \_\_\_\_\_

IX: SAY "AH" /SWALLOW: + / - \_\_\_\_\_

XI: RESIST SHOULDER SHRUG: + / - \_\_\_\_\_

TURN HEAD (ALL DIRECTIONS): + / - \_\_\_\_\_

XII: TOUNGE MOVEMENT: + / - \_\_\_\_\_

**ASSESSMENT:**

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**PLAN:**

REFERRAL NEEDED: YES / NO \_\_\_\_\_

HEAD INJURY SHEET ISSUED: YES / NO \_\_\_\_\_

ATHLETE RETURNED TO ACTIVITY: YES / NO, DATE: \_\_\_\_\_

**EVALUATOR:** \_\_\_\_\_

**APPENDIX C**

**NIAGARA UNIVERSITY HEAD INJURY SHEET**

I believe that \_\_\_\_\_ sustained a concussion on \_\_\_\_\_. To make sure he/she recovers,

**PLEASE follow the following important recommendations:**

1. Please remind \_\_\_\_\_ to report to the athletic training room tomorrow at \_\_\_\_\_ for a follow-up evaluation.
2. Please review the items outlined below in the **PHYSICIAN REFERRAL CHECKLIST**. If any of these signs or symptoms develop prior to his/her visit, please call \_\_\_\_\_ at \_\_\_\_\_ or contact the local emergency medical system ( 911 or Campus Safety at x8111). Otherwise, follow the instructions outlined below.

**IT IS OK TO:**

- Use acetaminophen (Tylenol) for headaches
- Use ice pack on head and neck as needed for comfort
- Eat a light diet
- Return to school
- Go to sleep
- Rest (no strenuous activity or sports)

- Check eyes with a flashlight
- Wake up every hour
- Test reflexes
- Stay in bed

**DO NOT:**

- Drink alcohol
- Eat spicy foods

**THERE IS NO NEED TO:**

**Specific Recommendations:**

Recommendations provided to: \_\_\_\_\_

Recommendations provided by: \_\_\_\_\_

Please feel free to contact me if you have any questions. I can be reached at: \_\_\_\_\_

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

**PHYSICIAN REFERRAL CHECKLIST**

**Day of injury referral:**

- Loss of consciousness on the field
- Amnesia lasting longer than 15 min.
- Deterioration of neurologic function\*
- Decreasing level of consciousness\*
- Decrease or irregularity in respirations\*
- Decrease or irregularity in pulse\*
- Increase in blood pressure
- Unequal, dilated, or unreactive pupils\*
- Cranial nerve deficits
- Any signs or symptoms of associated injuries, spine or skull fracture, or bleeding\*
- Mental status changes: lethargy, difficulty maintaining arousal, confusion, or agitation\*
- Seizure activity\*
- Vomiting
- Motor deficits subsequent to initial on-field assessment

- Sensory deficits subsequent to initial on-field assessment
- Balance deficits subsequent to initial on field assessment
- Cranial nerve deficits subsequent to initial on-field assessment
- Postconcussion symptoms that worsen
- Additional postconcussion symptoms as compared with those on the field
- Athlete is still symptomatic at the end of the game

**Delayed referral (after the day of injury):**

- Any of the findings in the day-of-injury referral category
- Postconcussion symptoms worsen or do not improve over time
- Increase in the number of postconcussion symptoms reported
- Postconcussion symptoms begin to interfere with the athlete's daily activities

**Graded System Checklist (GSC):**

Symptom	Time of Injury	____ Hours Post	24 Hours Post	48 Hours Post	72 Hours Post
	+ or -   Grade				
Blurred Vision					
Dizziness					
Drowsiness					
Excess Sleep					
Easily Distracted					
Fatigue					
Feel "In a Fog"					
Feel "Slowed Down"					
Headache					
Inappropriate Emotions					
Irritability					
Loss of Consciousness					
Loss of Orientation					
Memory Problems					
Nausea					
Nervousness					
Personality Change					
Poor Balance/Coordination					
Ringling in ears					
Sadness					
Seeing "Stars"					
Sensitivity to light					
Sensitivity to Sound					
Sleep Disturbance					
Vacant stare/glassy eyed					
Vomiting					

**GRADES: 0-6, where 0 = not present, 1 = Mild, 3 = Moderate, and 6 = Most Severe.**

**\*\*\*NOTE:** The GSC should be used not only for the initial evaluation but for each subsequent follow-up assessment until all signs and symptoms have cleared both at rest and during physical exertion. Along with checking each symptom present, the ATC 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.\*\*\*

## Balance Error Scoring System (BESS)

### Clinical Test Battery

- Six 20 sec trials using 3 different stances (double, single, tandem) on 2 different surfaces (firm, foam)

### Recorded errors

- Hands lifted off iliac crests
- Opening eyes
- Step, stumble, or fall
- Moving into >30 deg. of hip flexion or abduction
- Remaining out of testing position for >5 secs.



Balance Error Scoring System (BESS)

Scorecard ( No. of errors )	Firm Surface	Foam Surface	Notes:
Double-Leg Stance			
Single-Leg Stance			
Tandem Stance			
Total Errors			
Total Score			

**Standard Assessment of Concussion (SAC):**  
**Appendix F**

General Information	Neurologic Screening:																																								
<b>Name:</b> _____ <b>Team:</b> _____ <b>Examiner:</b> _____ <b>Date of exam:</b> _____ <b>Time:</b> _____ <b>Exam(Circle One):</b> <b>B-Line</b> <b>Injury</b> <b>Post-Px/Game</b> <b>Day 1 Day 2 Day 3 Day5 Day 7 Day 90</b>	<b>Loss Of Consciousness:</b> <b>No</b> <b>Yes</b> Witnessed Unresponsiveness:    Length: <b>Post-Traumatic Amnesia?</b> <b>No</b> <b>Yes</b> Poor recall of events after Injury   Length: <b>Retrograde Amnesia?</b> <b>No</b> <b>Yes</b> Poor recall of events before Injury   Length:																																								
<b>Introduction:</b> I am going to ask you some questions. Please listen carefully and give your best effort with each question.	<b>Strength</b> <b>Normal</b> <b>Abnormal</b> Right Upper Extremity: Left Upper Extremity: Right Lower Extremity: Left Lower Extremity:																																								
Orientation:	Sensation- Examples:																																								
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">What month is it?</td> <td style="width:10%; text-align: center;">0</td> <td style="width:10%; text-align: center;">1</td> <td style="width:20%;"></td> </tr> <tr> <td>What 's the date Today?</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td></td> </tr> <tr> <td>What's the day of the week?</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td></td> </tr> <tr> <td>What year is It?</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td></td> </tr> <tr> <td>What time is it right now (w/in 1 hr)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td></td> </tr> </table> <b>Award 1 pt for each correct answer.</b> <b>Orientation Total Score:</b> _____	What month is it?	0	1		What 's the date Today?	0	1		What's the day of the week?	0	1		What year is It?	0	1		What time is it right now (w/in 1 hr)	0	1		Finger to Nose Rhomberg <b>Coordination- Examples:</b> Tandem Walk <b>Finger-nose-finger</b>																				
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What time is it right now (w/in 1 hr)	0	1																																							
Immediate Memory:	Concentration:																																								
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7-1-8-4-6-2	5-3-9-1-4-8	0	1																																						
<b>Immediate Memory Total Score:</b> _____	<b>Concentration Total Score:</b> _____																																								
Exertional Maneuvers:	Delayed recall:																																								
If subject is not displaying or reporting symptoms, conduct the following maneuvers to create conditions under which symptoms are likely to be elicited and detected. <b>These measure need not be conducted if a subject is Already displaying or reporting any symptoms.</b> If not conducted, allow 2 minutes to keep time delay constant before testing Delayed Recall. These methods should be administered for baseline testing for normal subjects. 5 Jumping Jacks 5 Sit-Ups 5 Push-Ups 5 Knee Bends	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.  Elbow    Apple    Carpet    Saddle    Bubble <b>Delayed Recall Total Score:</b> _____																																								
<b>SAC Scoring Summary:</b> <i>Exertional Maneuvers &amp; Neurologic Screening are important for examination, but are not incorporated into SAC Total Score.</i> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:70%;"><b>Orientation</b></td> <td style="text-align: right;">_____ /5</td> </tr> <tr> <td><b>Immediate Memory</b></td> <td style="text-align: right;">_____ /15</td> </tr> <tr> <td><b>Concentration</b></td> <td style="text-align: right;">_____ /5</td> </tr> <tr> <td><b>Delayed Recall</b></td> <td style="text-align: right;">_____ /5</td> </tr> <tr> <td><b>SAC Total Score:</b></td> <td style="text-align: right;">_____ /30</td> </tr> </table>		<b>Orientation</b>	_____ /5	<b>Immediate Memory</b>	_____ /15	<b>Concentration</b>	_____ /5	<b>Delayed Recall</b>	_____ /5	<b>SAC Total Score:</b>	_____ /30																														
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## APPENDIX G

<b>1. No activity.</b>	Symptom-limited physical and cognitive rest.	Recovery.
<b>2. Light aerobic exercise.</b>	Walking, swimming or stationary cycling keeping intensity less than 70 percent maximum permitted heart rate. No resistance training.	Increase h
<b>3. Sport-specific exercise.</b>	Skating drills in ice hockey, running drills in soccer. No head-impact activities.	Add move
<b>4. Noncontact training drills.</b>	Progression to more complex training drills, e.g. passing drills in football and ice hockey. May start progressive resistance training.	Exercise, c and cogni
<b>5. Full-contact practice.</b>	Following medical clearance, participate in normal training activities.	Restore co and asses skills by co
<b>6. Return to play.</b>	Normal game play.	

\* 2013 International Conference on Concussion in Sport. Zurich








## Sport Concussion Assessment Tool – 3rd Edition

For use by medical professionals only

Name \_\_\_\_\_ Date/Time of Injury: \_\_\_\_\_ Examiner: \_\_\_\_\_  
 Date of Assessment: \_\_\_\_\_

### What is the SCAT3?<sup>1</sup>

The SCAT3 is a standardized tool for evaluating injured athletes for concussion and can be used in athletes aged from 13 years and older. It supersedes the original SCAT and the SCAT2 published in 2005 and 2009, respectively<sup>2</sup>. For younger persons, ages 12 and under, please use the Child SCAT3. The SCAT3 is designed for use by medical professionals. If you are not qualified, please use the Sport Concussion Recognition Tool<sup>3</sup>. Preseason baseline testing with the SCAT3 can be helpful for interpreting post-injury test scores.

Specific instructions for use of the SCAT3 are provided on page 3. If you are not familiar with the SCAT3, please read through these instructions carefully. This tool may be freely copied in its current form for distribution to individuals, teams, groups and organizations. Any revision or any reproduction in a digital form requires approval by the Concussion in Sport Group.

**NOTE:** The diagnosis of a concussion is a clinical judgment, ideally made by a medical professional. The SCAT3 should not be used solely to make, or exclude, the diagnosis of concussion in the absence of clinical judgement. An athlete may have a concussion even if their SCAT3 is "normal".

### 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 signs and/or symptoms (some examples listed below) and most often does not involve loss of consciousness. Concussion should be suspected in the presence of **any one or more** of the following:

- Symptoms (e.g., headache), or
- Physical signs (e.g., unsteadiness), or
- Impaired brain function (e.g. confusion) or
- Abnormal behaviour (e.g., change in personality).

## SIDELINE ASSESSMENT

### Indications for Emergency Management

**NOTE:** A hit to the head can sometimes be associated with a more serious brain injury. Any of the following warrants consideration of activating emergency procedures and urgent transportation to the nearest hospital:

- Glasgow Coma score less than 15
- Deteriorating mental status
- Potential spinal injury
- Progressive, worsening symptoms or new neurologic signs

### Potential signs of concussion?

If any of the following signs are observed after a direct or indirect blow to the head, the athlete should stop participation, be evaluated by a medical professional and **should not be permitted to return to sport the same day** if a concussion is suspected.

Any loss of consciousness?	Y	N
"If so, how long?"		
Balance or motor incoordination (stumbles, slow/laboured movements, etc)?	Y	N
Disorientation or confusion (inability to respond appropriately to questions)?	Y	N
Loss of memory:	Y	N
"If so, how long?"		
"Before or after the injury?"		
Blank or vacant look:	Y	N
Visible facial injury in combination with any of the above:	Y	N

### Glasgow coma scale (GCS)

<b>Best eye response (E)</b>	
No eye opening	1
Eye opening in response to pain	2
Eye opening to speech	3
Eyes opening spontaneously	4
<b>Best verbal response (V)</b>	
No verbal response	1
Incomprehensible sounds	2
Inappropriate words	3
Confused	4
Oriented	5
<b>Best motor response (M)</b>	
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
<b>Glasgow Coma score (E + V + M)</b>	<b>of 15</b>

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

### Maddocks Score<sup>3</sup>

"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)

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
<b>Maddocks score</b>	<b>of 5</b>	

Maddocks score is validated for sideline diagnosis of concussion only and is not used for serial testing.

Notes: Mechanism of Injury ("tell me what happened?"):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**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 until cleared to do so by a medical professional. No athlete diagnosed with concussion should be returned to sports participation on the day of injury.**

## BACKGROUND

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Examiner: \_\_\_\_\_  
 Sport/team/school: \_\_\_\_\_ Date/time of injury: \_\_\_\_\_  
 Age: \_\_\_\_\_ Gender:  M  F  
 Years of education completed: \_\_\_\_\_  
 Dominant hand:  right  left  neither  
 How many concussions do you think you have had in the past? \_\_\_\_\_  
 When was the most recent concussion? \_\_\_\_\_  
 How long was your recovery from the most recent concussion? \_\_\_\_\_  
 Have you ever been hospitalized or had medical imaging done for a head injury?  Y  N  
 Have you ever been diagnosed with headaches or migraines?  Y  N  
 Do you have a learning disability, dyslexia, ADD/ADHD?  Y  N  
 Have you ever been diagnosed with depression, anxiety or other psychiatric disorder?  Y  N  
 Has anyone in your family ever been diagnosed with any of these problems?  Y  N  
 Are you on any medications? If yes, please list:  Y  N

SCAT3 to be done in resting state. Best done 10 or more minutes post exercise.

## SYMPTOM EVALUATION

### 3 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	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 (Maximum possible 132) \_\_\_\_\_

Do the symptoms get worse with physical activity?  Y  N

Do the symptoms get worse with mental activity?  Y  N

self rated

self rated and clinician monitored

clinician interview

self rated with parent input

**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  N/A

Scoring on the SCAT3 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. Since signs and symptoms may evolve over time, it is important to consider repeat evaluation in the acute assessment of concussion.

## COGNITIVE & PHYSICAL EVALUATION

### Cognitive assessment

#### Standardized Assessment of Concussion (SAC)<sup>7</sup>

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

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 total \_\_\_\_\_ of 15

#### Concentration: Digits Backward

List	Trial 1	Alternative digit list			
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

Total of 4 \_\_\_\_\_

#### Concentration: Month in Reverse Order (1 pt. for entire sequence correct)

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

Concentration score \_\_\_\_\_ of 5

### 5 Neck Examination:

Range of motion  Tenderness  Upper and lower limb sensation & strength

Findings: \_\_\_\_\_

### 6 Balance examination

Do one or both of the following tests.

Footwear (shoes, barefoot, braces, tape, etc.) \_\_\_\_\_

#### Modified Balance Error Scoring System (BESS) testing<sup>5</sup>

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

Testing surface (hard floor, field, etc.) \_\_\_\_\_

#### Condition

Double leg stance: \_\_\_\_\_ Errors: \_\_\_\_\_

Single leg stance (non-dominant foot): \_\_\_\_\_ Errors: \_\_\_\_\_

Tandem stance (non-dominant foot at back): \_\_\_\_\_ Errors: \_\_\_\_\_

And/Or

#### Tandem gait<sup>6,7</sup>

Time (best of 4 trials): \_\_\_\_\_ seconds

### 7 Coordination examination

#### Upper limb coordination

Which arm was tested:  Left  Right

Coordination score \_\_\_\_\_ of 5

### 8 SAC Delayed Recall<sup>4</sup>

Delayed recall score \_\_\_\_\_ of 5

## INSTRUCTIONS

Words in *italics* throughout the SCAT3 are the instructions given to the athlete by the tester.

### Symptom Scale

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

To be completed by the athlete. In situations where the symptom scale is being completed after exercise, it should still be done in a resting state, at least 10 minutes post exercise.

For total number of symptoms, maximum possible is 22.

For Symptom severity score, add all scores in table, maximum possible is  $22 \times 6 = 132$ .

### SAC<sup>4</sup>

#### 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.

#### 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.

##### 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**

#### Delayed Recall

The delayed recall should be performed after completion of the Balance and Coordination Examination.

*"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."*

**Score 1 pt. for each correct response**

## Balance Examination

### Modified Balance Error Scoring System (BESS) testing<sup>5</sup>

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

**OPTION:** For further assessment, the same 3 stances can be performed on a surface of medium density foam (e.g., approximately 50 cm x 40 cm x 6 cm).

### Tandem Gait<sup>6,7</sup>

*Participants are instructed to stand with their feet together behind a starting line (the test is best done with footwear removed). Then, they walk in a forward direction as quickly and as accurately as possible along a 38mm wide (sports tape), 3 meter line with an alternate foot heel-to-toe gait ensuring that they approximate their heel and toe on each step. Once they cross the end of the 3m line, they turn 180 degrees and return to the starting point using the same gait. A total of 4 trials are done and the best time is retained. Athletes should complete the test in 14 seconds. Athletes fail the test if they step off the line, have a separation between their heel and toe, or if they touch or grab the examiner or an object. In this case, the time is not recorded and the trial repeated, if appropriate.*

## 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, pointing in front of you. 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, and then return to the starting position, as quickly and as accurately as possible."*

**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.**

## References & Footnotes

1. This tool has been developed by a group of international experts at the 4th International Consensus meeting on Concussion in Sport held in Zurich, Switzerland in November 2012. The full details of the conference outcomes and the authors of the tool are published in The BJSM Injury Prevention and Health Protection, 2013, Volume 47, Issue 5. The outcome paper will also be simultaneously co-published in other leading biomedical journals with the copyright held by the Concussion in Sport Group, to allow unrestricted distribution, providing no alterations are made.
2. McCrory P et al., Consensus Statement on Concussion in Sport – the 3rd International Conference on Concussion in Sport held in Zurich, November 2008. British Journal of Sports Medicine 2009; 43: 176-89.
3. Maddocks, DL; Dicker, GD; Saling, MM. The assessment of orientation following concussion in athletes. Clinical Journal of Sport Medicine. 1995; 5(1): 32-3.
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5. Guskiewicz KM. Assessment of postural stability following sport-related concussion. Current Sports Medicine Reports. 2003; 2: 24-30.
6. Schneiders, A.G., Sullivan, S.J., Gray, A., Hammond-Tooke, G. & McCrory, P. Normative values for 16-37 year old subjects for three clinical measures of motor performance used in the assessment of sports concussions. Journal of Science and Medicine in Sport. 2010; 13(2): 196-201.
7. Schneiders, A.G., Sullivan, S.J., Kvanstrom, J.K., Olsson, M., Yden, T. & Marshall, S.W. The effect of footwear and sports-surface on dynamic neurological screening in sport-related concussion. Journal of Science and Medicine in Sport. 2010; 13(4): 382-386



# CONCUSSION

A FACT SHEET FOR STUDENT-ATHLETES

## WHAT IS A CONCUSSION?

A concussion is a brain injury that:

- Is caused by a blow to the head or body,
  - from contact with another player, hitting a hard surface such as the ground, ice or floor, or being hit by a piece of equipment such as a bat, lacrosse stick or field hockey ball.
- Can change the way your brain normally works.
- Can range from mild to severe.
- Presents itself differently for each athlete.
- Can occur during practice or competition in ANY sport.
- Can happen even if you do not lose consciousness.

## HOW CAN I PREVENT A CONCUSSION?

Basic steps you can take to protect yourself from concussion:

- Do not initiate contact with your head or helmet. You can still get a concussion if you are wearing a helmet.
- Avoid striking an opponent in the head. Undercutting, flying elbows, stripping an opponent's helmet, checking an unprotected opponent, and sticks to the head all cause concussions.
- Follow your athletics department's rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.
- Practice and perfect the skills of the sport.

## WHAT ARE THE SYMPTOMS OF A CONCUSSION?

You can't see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury. Concussion symptoms include:

- Ataxia.
- Confusion.
- Headache.
- Loss of consciousness.
- Balance problems or dizziness.
- Double or fuzzy vision.
- Sensitivity to light or noise.
- Nausea (feeling that you might vomit).
- Feeling sluggish, foggy or groggy.
- Feeling unusually irritable.
- Concentration or memory problems (forgetting game plays, facts, meeting times).
- Slowed reaction time.

Exercise or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse.

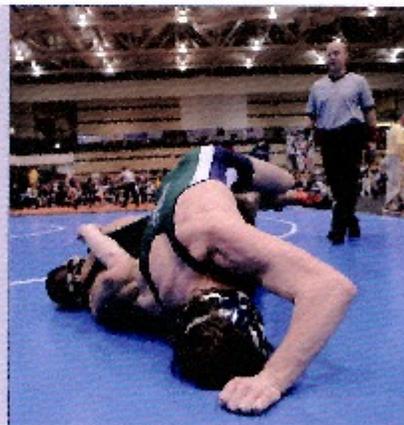
## WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?

**Don't hide it.** Tell your athletic trainer and coach. Never ignore a blow to the head. Also, tell your athletic trainer and coach if one of your teammates might have a concussion. Sports have injury timeouts and player substitutions so that you can get checked out.

**Report it.** Do not return to participation in a game, practice or other activity with symptoms. The sooner you get checked out, the sooner you may be able to return to play.

**Get checked out.** Your team physician, athletic trainer, or health care professional can tell you if you have had a concussion and when you are cleared to return to play. A concussion can affect your ability to perform everyday activities, your reaction time, balance, sleep and classroom performance.

**Take time to recover.** If you have had a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have a repeat concussion. In rare cases, repeat concussions can cause permanent brain damage, and even death. Severe brain injury can change your whole life.



**IT'S BETTER TO MISS ONE GAME THAN THE WHOLE SEASON.  
WHEN IN DOUBT, GET CHECKED OUT.**

For more information and resources, visit [www.NCAA.org/health-safety](http://www.NCAA.org/health-safety) and [www.CDC.gov/concussion](http://www.CDC.gov/concussion).



References are: "Concussion: Cause or predictor of later brain pathology?" as by consensus at an address given by the Government of this region on the production of a movie.



# CONCUSSION

A FACT SHEET FOR COACHES

## THE FACTS

- A concussion is a brain injury.
- All concussions are serious.
- Concussions can occur without loss of consciousness or other obvious signs.
- Concussions can occur from blows to the body as well as to the head.
- Concussions can occur in *any* sport.
- Recognition and proper response to concussions when they first occur can help prevent further injury or even death.
- Athletes may not report their symptoms for fear of losing playing time.
- Athletes can still get a concussion even if they are wearing a helmet.
- Data from the NCAA Injury Surveillance System suggests that concussions represent 5 to 18 percent of all reported injuries, depending on the sport.

## WHAT IS A CONCUSSION?

A concussion is a brain injury that may be caused by a blow to the head, face, neck or elsewhere on the body with an “impulsive” force transmitted to the head. Concussions can also result from hitting a hard surface such as the ground, ice or floor, from players colliding with each other or being hit by a piece of equipment such as a bat, lacrosse stick or field hockey ball.

## RECOGNIZING A POSSIBLE CONCUSSION

To help recognize a concussion, watch for the following two events among your student-athletes during both games and practices:

1. A forceful blow to the head or body that results in rapid movement of the head;

-AND-

2. **Any change** in the student-athlete’s behavior, thinking or physical functioning (see signs and symptoms).

## SIGNS AND SYMPTOMS

### Signs Observed By Coaching Staff

- Appears dazed or stunned.
- Is confused about assignment or position.
- Forgets plays.
- Is unsure of game, score or opponent.
- Moves clumsily.
- Answers questions slowly.
- Loses consciousness (even briefly).
- Shows behavior or personality changes.
- Can’t recall events before hit or fall.
- Can’t recall events after hit or fall.

### Symptoms Reported By Student-Athlete

- Headache or “pressure” in head.
- Nausea or vomiting.
- Balance problems or dizziness.
- Double or blurry vision.
- Sensitivity to light.
- Sensitivity to noise.
- Feeling sluggish, hazy, foggy or groggy.
- Concentration or memory problems.
- Confusion.
- Does not “feel right.”



## PREVENTION AND PREPARATION

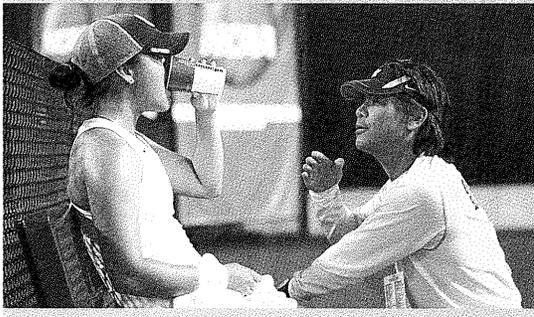
As a coach, you play a key role in preventing concussions and responding to them properly when they occur. Here are some steps you can take to ensure the best outcome for your student-athletes:

- Educate student-athletes and coaching staff about concussion. Explain your concerns about concussion and your expectations of safe play to student-athletes, athletics staff and assistant coaches. Create an environment that supports reporting, access to proper evaluation and conservative return-to-play.
  - Review and practice your emergency action plan for your facility.
  - Know when you will have sideline medical care and when you will not, both at home and away.
  - Emphasize that protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
  - Review the Concussion Fact Sheet for Student-Athletes with your team to help them recognize the signs of a concussion.
  - Review with your athletics staff the NCAA Sports Medicine Handbook guideline: Concussion or Mild Traumatic Brain Injury (mTBI) in the Athlete.
- Insist that safety comes first.
  - Teach student-athletes safe-play techniques and encourage them to follow the rules of play.
  - Encourage student-athletes to practice good sportsmanship at all times.
  - Encourage student-athletes to immediately report symptoms of concussion.
- Prevent long-term problems. A repeat concussion that occurs before the brain recovers from the previous one (hours, days or weeks) can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in brain swelling, permanent brain damage and even death.

### IF YOU THINK YOUR STUDENT-ATHLETE HAS SUSTAINED A CONCUSSION:

Take him/her out of play immediately and allow adequate time for evaluation by a health care professional experienced in evaluating for concussion.

An athlete who exhibits signs, symptoms or behaviors consistent with a concussion, either at rest or during exertion, should be **removed immediately from practice or competition** and should not return to play until cleared by an appropriate health care professional. Sports have injury timeouts and player substitutions so that student-athletes can get checked out.



### IF A CONCUSSION IS SUSPECTED:

1. **Remove the student-athlete from play.** Look for the signs and symptoms of concussion if your student-athlete has experienced a blow to the head. Do not allow the student-athlete to just “shake it off.” Each individual athlete will respond to concussions differently.
2. **Ensure that the student-athlete is evaluated right away by an appropriate health care professional.** Do not try to judge the severity of the injury yourself. Immediately refer the student-athlete to the appropriate athletics medical staff, such as a certified athletic trainer, team physician or health care professional experienced in concussion evaluation and management.
3. **Allow the student-athlete to return to play only with permission from a health care professional with experience in evaluating for concussion.** Allow athletics medical staff to rely on their clinical skills and protocols in evaluating the athlete to establish the appropriate time to return to play. A return-to-play progression should occur in an individualized, step-wise fashion with gradual increments in physical exertion and risk of contact.
4. **Develop a game plan.** Student-athletes should not return to play until all symptoms have resolved, both at rest and during exertion. Many times, that means they will be out for the remainder of that day. In fact, as concussion management continues to evolve with new science, the care is becoming more conservative and return-to-play time frames are getting longer. Coaches should have a game plan that accounts for this change.

## IT'S BETTER THEY MISS ONE GAME THAN THE WHOLE SEASON. WHEN IN DOUBT, SIT THEM OUT.

For more information and resources, visit [www.NCAA.org/health-safety](http://www.NCAA.org/health-safety) and [www.CDC.gov/Concussion](http://www.CDC.gov/Concussion).



*Reference to any commercial entity or product or service on this page should not be construed as an endorsement by the Government of the company or its products or services.*

# NOTICE OF CONCUSSION

**NAME** \_\_\_\_\_ **ID#** \_\_\_\_\_ **DATE** \_\_\_\_\_

The above mentioned Student-Athlete has recently suffered an injury consistent with a Mild Traumatic Brain Injury (MTBI), often referred to as a concussion. S/He is being followed medically by the Sports Medicine Staff. Treatment for these injuries often involves rest, limitation of exertional activities and monitoring progress. Some symptoms may arise which may cause temporary issues in daily living activities, including studies. Any student-athlete who is diagnosed with a concussion by a member of the Sports Medicine Staff shall be withheld from class on the day of injury. **It is the student-athletes responsibility to inform their professors through e-mail that they have been diagnosed with a concussion.** This form will initially be forwarded to the Academic Coach for student-athletes for every concussion injury that is diagnosed by the Sports Medicine Staff.

In this specific individual, s/he may exhibit the following signs and/or symptoms:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If the student-athlete is exhibiting any signs and/or symptoms after 24 hours, which will require accommodations, the student will be referred to the Coordinator of Disability Services in the Office of Academic Support. S/He understands that any academic accommodations or needs after the initial 24 hours post-concussion must be directed to the Coordinator of Disability Services. The Sports Medicine Staff will complete the "Disability Services Concussion Verification" form and communicate any further information to the Coordinator of Disability Services, as necessary.

\_\_\_\_\_  
Sports Medicine Staff Signature

\_\_\_\_\_  
Date

This Form Was Forwarded To:

\_\_\_\_\_ Academic Coach

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

\_\_\_\_\_ Coordinator, Disability Services

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