

3341-8-1 BGSU Concussion and Head Injury Management.

Applicability	Intercollegiate Athletics
Responsible Office	Department of Intercollegiate Athletics
Responsible Administrator	Director of Athletics

(A) Policy Purpose

The purpose is to articulate the guidelines for identifying and managing concussions of student athletes.

(B) Policy**(1) Definition of Concussion**

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

- (a) Concussion may be caused by a direct blow to the head, face, neck, or elsewhere on the body with an “impulsive” force transmitted to the head.
- (b) Concussion typically results in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously.
- (c) Concussion may result in neuropathologic changes, but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury.

- (d) Concussion results in a graded set of clinical symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course; however, it is important to note that in a small percentage of cases, post-concussive symptoms may be prolonged.
- (e) No abnormality on standard structural neuroimaging studies is seen in concussion.

(2) Preseason Education

- (a) All BGSU student-athletes must read the NCAA Concussion Fact Sheet and sign the Student- Athlete Concussion Statement acknowledging that:
 - (i) They have read and understand the NCAA Concussion Fact Sheet.
 - (ii) They accept the responsibility for reporting injuries and illnesses (including signs and symptoms of concussions) to the BGSU Sports Medicine staff.
- (b) All BGSU athletics administrators and coaches (including head, assistants, and strength & conditioning) must read and sign the Coach Concussion Statement acknowledging that they:
 - (i) Have read and understand the NCAA Concussion Fact Sheet.
 - (ii) Will encourage student-athletes to report any suspected injuries and illnesses (including signs and symptoms of a concussion) to the BGSU Sports Medicine staff and that they accept the responsibility for referring any student-athlete to the Sports Medicine suspected of sustaining a concussion.

- (iii) Have read and understand the BGSU Concussion Management Protocol.
- (c) All BGSU Sports Medicine staff members and designated team physicians must read and sign the BGSU Medical Staff Concussion Statement acknowledging that they:
 - (i) Have read and understand the NCAA Concussion Fact Sheet.
 - (ii) Have read and understand the BGSU Concussion and Head Injury Management Guidelines.
 - (iii) Participate in Annual Concussion Education.

(3) Concussion Prevention

While exposure to head trauma is inherent with many sports, the Department of Intercollegiate Athletics and its coaches are committed to reducing unnecessary exposure to head trauma. Coaches will conform to current best practices and recommendations for their sport in regards to reducing exposures to head trauma.

Best practices include:

- (a) Adherence to the NCAA Policy: Year-Round Football Practice Contact Guideline.
- (b) Adherence to NCAA Policy: Independent Medical Care Guidelines.
- (c) Implementing proper coaching techniques regarding safe play.
- (d) Educating student-athletes regarding safe play and the importance of concussion safety.

(4) Pre-Participation Assessment

All new (first-year or transfer) student-athletes must receive a pre-season baseline assessment for concussion involving the Sport Concussion Assessment Tool 3 (SCAT3), the Head Injury Scale (HIS), a Balance Error Scoring System (BESS) and/or computerized posturography balance (CPB) test (NeuroCom SET).

(5) Concussion Recognition and Diagnosis

All BGSU Sports Medicine personnel including designated team physicians(s) will use the HIS, BESS, and SCAT2 form/questionnaire to help assess the injured athlete suspected of being concussed. Clinical judgment should err on the conservative side in the event the student-athlete performs well on the HIS, BESS and/or SCAT2 questionnaire yet is still believed to have suffered a concussion.

A diagnosis of concussion can be assumed if one or more of the following clinical domains are adversely affected and associated with a potential concussive event or a series of sub-concussive events:

- (a) Symptoms: somatic (e.g., headache), cognitive (e.g., feeling “like in a fog”) and/or emotional symptoms (e.g., lability/excessive emotional reactions and frequent mood changes),
- (b) Physical signs (e.g., loss of consciousness, amnesia),
- (c) Behavioral changes (e.g., irritability),
- (d) Cognitive impairment (e.g., slowed reaction times),
- (e) Sleep disturbance (e.g., drowsiness).

If any one or more of these components is present in association with a potential concussive event, a concussion may be suspected and the appropriate management strategy instituted. Should the team physician not be present, the designated athletic trainer will implement the appropriate management strategy and notify the team physician as soon as possible to develop a definitive evaluation and treatment plan.

- (6) On-Field or Sideline Evaluation of Acute Concussion
- (a) The on-field or sideline evaluation of a student-athlete suspected of a concussion will be accomplished in the appropriate amount of time needed to ensure the health and safety of the individual.
 - (b) The Sports Medicine staff (athletic trainer or team physician on-site) will complete the concussion assessment.
 - (c) If a concussion is suspected, the initial concussion evaluation will include a symptom assessment, a physical and neurological exam, a cognitive assessment, a balance exam, and clinical assessment for cervical spine trauma, skull fracture, and intracranial bleed.
 - (d) The student-athlete will receive serial monitoring for deterioration for at minimum one hour following the concussive event.
 - (e) The student-athlete will be provided written home instructions that s/he will sign upon discharge to a roommate, guardian, or someone that can follow the instructions.
 - (f) The Sports Medicine staff will be available to the student-athlete until the concussion is resolved. If a Sports Medicine staff member is not immediately available, the student-athlete should report to the emergency room.
 - (g) A student-athlete diagnosed with a concussion will be withheld from the competition or practice and not return to sport activity for the remainder of that day.
 - (h) Student-athletes who sustain a concussion outside of their sport will be managed in the same manner as those sustained during sport activity as soon as they notify sports medicine staff of their injury, symptoms, and/or diagnosis of concussion.

(7) Post-Acute Concussion Management

- (a) Student-athletes should be referred to the team physician as soon as possible following the injury if not emergent; if emergent, the student-athlete should be transported to the closest emergency department.

Emergent scenarios include:

- (i) Prolonged loss of consciousness;
 - (ii) Focal neurological deficits suggesting intracranial trauma;
 - (iii) Repetitive emesis/vomiting;
 - (iv) Diminishing mental status or other neurological signs/symptoms; and
 - (v) Spine injury.
- (b) The members of BGSU Sports Medicine staff will utilize the following post-concussion management plan (unless directed otherwise by physician and/or neuropsychologist):
- (i) Daily check-in: The student-athlete will be monitored for recurrence or worsening of symptoms via HIS daily. Furthermore student-athletes will be advised about worsening symptoms from both physical exertion and also mental exertion, such as reading, text messaging, computer games, watching film, athletic meetings, using a computer, classroom work, or taking a test. The appropriate academic advisor will be notified of possible academic modifications/restrictions. The student-athlete will repeat BESS, SCAT3, CPB test as needed and scores will be compared to both baseline and normative values.
 - (ii) If student-athlete has returned to within normal limits for concussion symptomology: Student-

athlete will be evaluated by the sports medicine staff, if the Sports Medicine staff determines that activity will benefit the student-athlete, active recovery strategies may commence.

- (iii) Student-Athlete Asymptomatic: Student-athlete will repeat HIS, BESS, SCAT3, and CPB test. Student-athlete will also begin exertional testing; re-evaluated by physician for return decision.
- (iv) If a student-athlete continues to be symptomatic after 7 days:

Athlete will repeat HIS, BESS, SCAT3, and CPB test. Results will be compared to baseline and normative values.

- (a) If test results have returned to acceptable clinical ranges:

Initiate exertional testing; re-evaluated by physician for return to participation decision.

- (b) If tests results NOT returned to acceptable clinical ranges:

When medically cleared by a physician; repeat test battery; consider specialty referral and/or additional work-up not to exclude radiology and or laboratory assessment when appropriate.

(8) Return to Learn

- (a) Once a student-athlete is diagnosed with a concussion, the team physician or designated Sports Medicine staff member will notify the academic advisor responsible for that student-athlete and his/her sport, if the student-athlete is withheld from cognitive activity.

- (b) If merited, the designated Sports Medicine staff member will also contact the Dean of Students office providing them information that the student should be excused from academic activities until symptoms have improved and re-evaluated by a physician.
- (c) Return to learn will be initiated with cognitive rest. This may include limiting stressors such as going to class, reading, studying, using a computer, playing video games, and text messaging.
- (d) If the student-athlete has been withheld from cognitive activity, the student-athlete should then begin an individualized return to academic activities based on symptoms. The return should include:
 - (i) Compliance with ADA Amendments Act of 2008 specific to temporary disability.
 - (ii) No classroom activity on same day as concussion.
 - (iii) Individualized initial plan that includes a gradual return to classroom/studying as tolerated.

(9) **Modifying Factors in Concussion Management**

BGSU is in agreement with the “Consensus Statement on Concussion in Sport” (2014) that there are multiple factors that may modify the management strategy and return to play protocol detailed above. These factors are listed below and have been taken from the Consensus Statement.

Factors	Modifier
Symptoms	Number Duration (>10 days) Severity
Signs	Prolonged LOC (>1min) Amnesia
Sequelae	Concussive convulsions
Temporal	Frequency – repeated concussions over time Timing – injuries close together in time “Recency” – recent concussion or TBI
Threshold	Repeated concussions occurring with progressively less impact force or slower recovery after each successive concussion
Age	Child and adolescent (<18 years old)
Co- and Pre-morbidities	Migraine Depression or other mental health disorders Attention deficit hyperactivity disorder (ADHD) Learning disability Sleep disorders
Medication	Psychoactive drugs Anticoagulants
Behavior	Dangerous style of play
Sport	High-risk activity Contact and collision sports High sporting level

If any of these modifying factors apply to the concussed athlete, the management plan may be adapted to ensure the safety of the athlete during recovery and return to play.

These factors should be specifically addressed at the physician visit to determine their applicability.

If any of these modifying factors are determined to be clinically significant for the concussed athlete, consultation with neurology may be considered to assist in appropriate management and return to play decisions.

If consultation is implemented, it is recommended that this consultation be to a neurologist specifically trained in concussion management.

(10) Coordination of Care

BGSU recognizes that the appropriate management of the concussed student-athlete requires the coordinated efforts of the Sports Medicine staff as well as coaches, athletic department staff and, in some cases, the Office of Accessibility Services.

(11) Documentation of Concussion Management

- (a) After diagnosis of a concussion, the managing athletic trainer will include all documentation (physician visit(s) notes, SCAT 3, HIS, and all other pertinent documentation).
- (b) Other information that is not obtained through hard copy will be logged into the Sports Medicine tracking software (Sports Injury Monitoring System (SIMS)).
- (c) Upon completion of student-athlete's eligibility at BGSU, the full SIMS report will be placed in the student-athlete's file and placed in records for seven years.

Registered Date: March 20, 2015

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