



**UNIVERSITY OF WISCONSIN-MILWAUKEE ATHLETICS  
CONCUSSION MANAGEMENT POLICY AND PROCEDURE**

*Reviewed 6/16/2025*

## **I. INTRODUCTION**

The management of athletic related concussions has been a topic of interest and controversy for many years, with many professional health organizations deliberating on how to best prevent, diagnose, and treat these often enigmatic conditions. This proposal will attempt to outline a guided plan to manage athletic related concussions, establish standards and guidelines for diagnosis, treatment, return to play, and disqualification of student-athletes suffering these injuries.

## **II. ATHLETIC CONCUSSION MANAGEMENT TEAM**

The University of Wisconsin-Milwaukee Athletic Concussion Management Team shall consist of:

- Certified Athletic Trainer
- Team Physician
- Consulting Neurologist/Neuropsychologist/Neurosurgeon (if deemed necessary by Team Physician)

## **III. INDEPENDENT MEDICAL CARE**

As required by NCAA Independent Medical Care legislation, team physicians and athletic trainers shall have unchallengeable autonomous authority to determine medical management and return-to-activity decisions, including those pertaining to concussion and head trauma injuries, for all student athletes.

## **IV. CONCUSSION DEFINITION AND CLASSIFICATION**

There is no uniform definition of concussion. The Consensus Statement on Concussion in Sport, which resulted from the 6th international conference on concussion in sport, defines sport-related concussion as follows:

Sport-related concussion is a traumatic brain injury caused by a direct blow to the head, neck or body resulting in an impulsive force being transmitted to the brain that occurs in sports and exercise-related activities. This initiates a neurotransmitter and metabolic cascade, with possible axonal injury, blood flow change and inflammation affecting the brain. Symptoms and signs may present immediately, or evolve over minutes or hours, and commonly resolve within days, but may be prolonged.

No abnormality is seen on standard structural neuroimaging studies (computed tomography or magnetic resonance imaging T1- and T2-weighted images), but in the research setting, abnormalities may be present on functional, blood flow or metabolic imaging studies. Sport-related concussion results in a range of clinical symptoms and signs that may or may not involve loss of consciousness. The clinical symptoms and signs of concussion cannot be explained solely by (but may occur

concomitantly with) drug, alcohol, or medication use, other injuries (such as cervical injuries, peripheral vestibular dysfunction) or other comorbidities (such as psychological factors or coexisting medical conditions).

## **V. EDUCATION, PRE-SCREENING, AND BASELINE TESTING**

The University of Wisconsin-Milwaukee Athletic Training Staff will educate student-athletes, sports administrators, coaches, and other personnel involved in student-athlete health and safety decision making on concussion symptoms and reporting, pre-screen all student-athletes, and administer pre-season baseline testing for student-athletes.

### **A. Education:**

- The NCAA mandates that student-athletes sign a statement in which they accept the responsibility for reporting their injuries and illnesses to the University of Wisconsin-Milwaukee Athletic Training Staff, including signs and symptoms of concussions. During the review and signing process, student-athletes will be provided with common concussion symptoms and what to do in the event they suspect they have sustained a concussion.
- The University of Wisconsin-Milwaukee Athletic Training Department will also ensure coaches, team physicians, athletic trainers, sports administrators, and other personnel involved in student-athlete health and safety are provided with educational materials regarding concussions. Written acknowledgement will be obtained from each individual that they have received education about concussions through the “Concussion: A Fact Sheet for Coaches” provided by the NCAA and understand their responsibility to report all concussion related symptoms and/or signs to the appropriate personnel. Each party will acknowledge of having read and understood the concussion material on a yearly basis by signing the “University of Wisconsin – Milwaukee Coach and Staff Member Concussion Statement.”

### **B. Reducing Exposure to Head Trauma:**

- University of Wisconsin - Milwaukee is committed to protecting the health of and providing a safe environment for each of its participating NCAA student-athletes. To this end, and in accordance with NCAA association-wide policy, the University of Wisconsin - Milwaukee will reduce student-athlete head impact exposure in a manner consistent with Interassociation Recommendations: Preventing Catastrophic Injury and Death in Collegiate Athletes and Consensus statement on concussion in sport: the 6th International Conference on Concussion in Sport. For example:
  - Teams will adhere to existing ethical standards in all practices and competitions
  - Deliberately inflicting injury on another player will be prohibited in all practices and competitions
  - Consideration of participation in neuromuscular training warm up programs
  - Emphasize education of proper technique to reduce head impact exposure for all contact and collision sports, with special emphasis in pre-season.

### **C. Pre-screening:**

- Collecting histories on individual athletes is a vital part of baseline testing, especially in establishing whether the athlete has a history of concussion, neurologic disorder, or other medical condition. It is specifically important to establish:
  - Whether the player has any history of concussion, and if so, how many
  - Injury characteristics of any previous concussions (LOC, amnesia, symptoms, recovery time, time lost from participation, and any medical treatment).
- For athletes with a history of concussions, it is also important to clarify any pattern of:

- Concussions occurring as a result of lighter impact
  - Concussions occurring closer together in time
  - Lengthier recovery time with successive concussions
  - Less complete recovery with each subsequent concussive injury
- Documenting a history of attentional disorders, learning disability, or any other cognitive developmental disorders is also very important in interpreting baseline and post injury neuropsychological testing.

#### **D. Baseline Testing:**

- Baseline testing for symptomology, cognitive assessment (Sway Medical), and postural stability (Sway Medical) will be conducted for all student-athletes.
- The team physician determines pre-participation clearance and along with the Sports Medicine Staff and Concussion Management Team determine the need for additional consultation or testing.
- A new baseline test will be performed every year for current athletes.
- Importantly, baseline testing may inform post-injury evaluation; however, student-athletes who have suffered a concussion may perform at the same level or even better than their baseline testing, as motivation and other factors may differ in post-concussion testing. Ultimately, baseline testing serves as one of many potential factors in making a clinical decision.

### **VI. MEDICAL COVERAGE, RECOGNITION, EAP, AND TREATMENT PLAN**

#### **A. Medical Personnel Coverage**

- Medical personnel with training in the diagnosis, treatment and initial management of acute concussions will be “present” at all NCAA competitions in the following contact/collision sports: basketball, baseball, diving, soccer, volleyball, and pole vault.
  - To be “present” means on site at the campus or arena of the competition.
- Medical personnel with training in the diagnosis, treatment and initial management of acute concussion must be “available” at all NCAA practices in the following contact/collision sports: basketball, baseball, diving, soccer, volleyball, and pole vault.
  - 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.

**Upon presentation of a student-athlete who appears to have sustained a concussion, the following recognition and referral plan will be followed:**

#### **B. Recognition:**

- A University of Wisconsin-Milwaukee student-athlete who exhibits signs, symptoms or behaviors consistent with a concussion shall be removed from practice or competition and be evaluated by an athletic trainer or team physician with concussion experience. Student-athletes diagnosed to have sustained a concussion shall not return to physical (competition or practice) or classroom activity for the remainder of the day.
- In addition to a thorough symptom assessment and physical evaluation, formal cognitive assessment (Sway Medical) and postural stability (Sway Medical) testing will be performed to objectively determine the injury severity.
- Clinical assessment for cervical spine injury, skull fracture, and intracranial bleed will be a component of the evaluation.

- After the initial concussion evaluation, the ATC and/or Team Physician will determine whether the athlete requires more advanced medical intervention on an emergent or non-emergent basis.
- Once the athlete has been thoroughly evaluated and diagnosed with a concussion, a comprehensive medical management plan will be implemented by the Sports Medicine Staff and the Concussion Management Team if necessary. Frequent medical evaluations and observations continued monitoring of post-concussion signs and symptoms, and post-injury cognitive assessment and postural stability will be performed. Other testing methods may also be used if deemed necessary or Sway testing is unable to be completed at the time.

### **C. Emergency Action Plan:**

- A student-athlete must be immediately removed from play and assessed for possible transport to a local hospital/trauma center when any of the following signs/symptoms are present:
  1. Neck pain or tenderness
  2. Seizure or convulsion
  3. Double vision
  4. Loss of consciousness
  5. Weakness or tingling/burning in more than one arm or in the legs
  6. Deteriorating conscious state
  7. Vomiting
  8. Severe or increasing headache
  9. Increasingly restless, agitated or combative
  10. Glasgow Coma Scale Score <15
  11. Visible deformity of the skull

### **D. Treatment Plan:**

- A University of Wisconsin-Milwaukee student-athlete who sustains a concussion will be treated using an individualized treatment plan based on self-reported signs and symptoms, cognitive function, and balance ability. Attention will be focused on the student-athlete's recovery based on symptoms, cognitive assessments (Sway Medical), and postural stability (Sway Medical) tests. Once the student-athlete is asymptomatic, a stepwise progression will be implemented that increases demands over several days.
- Consideration of symptom limited, light aerobic physical activity within 24-48 hours (e.g., walking)
- Consideration of reduced screen use in the first 24-48 hours.
- The University of Wisconsin-Milwaukee Academic Advisors will contact the student-athlete's professors to make necessary arrangements in accordance with the Return to Academic Activity Guidelines below.
- A symptom score and Sway Medical post-injury test will be administered by an ATC during the initial evaluation following a suspected concussion. Once a concussion has been diagnosed, a daily symptom score will be obtained to track symptoms improved or deterioration. The symptom score is also used after each progression of exertional effort to determine whether or not the student-athlete's symptoms worsened, stayed the same, or improved. Sway Medical testing will then be completed following the return to play protocol to ensure athlete has returned to baseline for cognitive assessment and postural stability.
- The athletic trainer will relay appropriate information to the Academic Advisor, sport coach, and Strength and Conditioning Coach to ensure proper precautions and steps are taken during recovery.

- In the event of persisting symptoms >4 weeks following a concussion the student athlete will have further evaluation by a physician to consider additional diagnosis so that a proper management plan can be put into place.
  - Additional diagnoses can include:
    - Fatigue and/or sleep disorders
    - Ocular dysfunction
    - Cervical and vestibular dysfunction
    - Cognitive impairment and autonomic dysfunction including orthostatic intolerance and postural orthostatic tachycardia syndrome
    - Pain
- Important points:
  - There are currently no evidence based pharmacologic treatment options for the athlete with a concussion. The athlete should avoid medications containing NSAIDs or aspirin. Recommend acetaminophen be used sparingly in treatment of headache symptoms of concussion, and only with consent from Team Physician. Other medications should be avoided unless cleared by the Team Physician. Other substances to avoid are those that adversely affect CNS function including alcohol and narcotics.
  - The athlete should be awakened during the night to monitor potentially deteriorating signs and symptoms only if he/she experienced LOC, had prolonged periods of amnesia, was still experiencing significant symptoms at bedtime, or the initial injury is less than four hours before the athlete goes to sleep. Oral instructions should be given to the athlete or a responsible adult.
  - The athlete will be instructed to avoid activities that increase symptoms; including both non-athletic and athletic activity.
  - A normal, well balanced diet should be maintained to provide the needed nutrients to aid in the recovery process from the injury. The team nutritionist will be consulted with at this time.

## VII. RETURN TO ACADEMIC ACTIVITY GUIDELINES

The vast majority of young adults have a full return-to-learn with no additional academic support by 10 days post-injury. Complete rest and isolation should be avoided, even during the initial 24-48 hours post-injury. Relative rest is important in the first 24 hours. For those student-athletes with persisting symptoms a more formal plan may be in order.

The return-to-learn concept should follow an individualized and step-wise process overseen by a point person within the athletics department, who will navigate return-to-learn with the student-athlete and, in more complex cases of prolonged return-to-learn, work in conjunction with a multi-disciplinary team that may vary student-to-student depending on the specifics of the case but may include, but is not limited to:

- Team physician
- Athletic trainer
- Psychologist/counselor at S.H.A.W
- Neuropsychologist
- Medical specialists
- Faculty athletics representative.
- Academic counselor
- Course instructor(s)
- College administrators

- Office of disability services representative
- Coaches

A student-athlete who has suffered a concussion will return to classroom/studying as tolerated with modification of schedule/academic accommodations, as indicated, with help from the identified point-person. The plan may address environment, physical, curriculum and/or testing adjustments. Campus resources will be engaged for cases that cannot be managed through schedule modification/academic accommodations. Campus resources will be consistent with the ADAAA and will include one of the following:

- Learning specialists
- Office of disability services
- ADAAA office

A student-athlete will be re-evaluated by a team physician (or their designee) and members of the multi-disciplinary team, as appropriate, if concussion symptoms worsen with academic challenges or in the event of atypical presentation or persisting symptoms.

### VIII. RETURN TO PLAY PROGRESSION

Decisions regarding the return to activity following concussion will be completed according to the following guidelines:

- Complete rest and isolation should be avoided, even for the initial 24-48 hours. Relative rest is important in the first 24 hours.
- Final determination of unrestricted return to play will come from a UWM team physician or their designee following implementation of an individualized, supervised stepwise progression management plan that includes:
  - **Step 1** - Symptom-Limited activities of daily living. With consideration for light aerobic physical activity (e.g. walking).
  - **Step 2** - Aerobic exercise with light resistance training as tolerated (no more than mild or brief, <1 hour, exacerbation of symptoms)
    - **2A** – Light (up to ~ 55% maximum heart rate); then
    - **2B** – Moderate (up to ~70% maximum heart rate)
  - **Step 3** – Individual sport-specific non-contact exercise and activity without any increased risk of inadvertent head impact exposure

**Proceed to step 4 only after resolution of signs and symptoms related to the current concussion, including with and after physical exertion.**

- **Step 4** – Non-contact practice with progressive resistance training
- **Step 5** – Unrestricted practice or training
- **Step 6** – Unrestricted return-to-sport
- The above stepwise progression will be supervised by a health care provider with expertise in concussion, with it being typical for each step in the progression to last at least 24 hours.
- If a student-athlete is experiencing a recurrent concussion, especially within the same season, the student-athlete will be taken through a more conservative approach through their recovery process.
- Before returning to full contact participation, the athlete will be reassessed using a symptom checklist, cognitive assessment (Sway Medical), and postural stability (Sway Medical) tests. If all scores have returned to baseline or better, return to full participation can be considered after further clinical evaluation and medical clearance by the Team Physician.

## **IX. DISQUALIFICATION**

Disqualification Committee – When a student athlete has suffered a significant concussion or multiple concussions that may constitute disqualification, the following committee will deliberate to decide on the proper course of action:

1. Team Certified Athletic Trainer
2. Team Physician
3. Consulting Neurologist/Neuropsychologist/Neurosurgeon
4. Athletic Director

This decision to disqualify the student-athlete will be based solely on the medical welfare of the student-athlete and not on the needs or desires of the University of Wisconsin-Milwaukee or its Athletic Department or representatives thereof. The Disqualification Committee will consider medical opinions but any decision reached by the committee will be final.

- a. A student-athlete's season may be terminated based on the professional recommendations of the Team Physician and Neuropsychologist and based upon clinical evaluations, diagnostic testing, and neuropsychological testing.

## **X. CONCLUSION**

Concussions in athletics are difficult to manage. Complicating factors such as team success; peer, coach, parental, or media pressure; and an athlete's desire to play can often make this decision even more difficult. It is the purpose of this policy to provide a more directed framework for proper decision-making that will hopefully provide safeguards for the student-athlete's health and welfare, while balancing these factors and maintaining the flexibility to allow safe return to play.