

Muhlenberg College Athletic Training

Concussion Management Plan

Concussions and other brain injuries can be serious and potentially life threatening injuries in sports. Research indicates that these injuries can also have serious consequences later in life if not managed properly. In an effort to combat this injury the following concussion management plan will be used for Muhlenberg College student athletes suspected of sustaining a concussion.

A **concussion** occurs when there is a direct or indirect insult to the brain. As a result, transient impairment of mental functions such as memory, balance/equilibrium, and vision may occur. It is important to recognize that many sport-related concussions *do not* result in loss of consciousness and, therefore, all suspected head injuries should be taken seriously. Coaches and fellow teammates can be helpful in identifying those who may potentially have a concussion, because a concussed athlete may not be aware of their condition or potentially be trying to hide the injury to stay in the game or practice.

1. Coaches and Student-Athletes will be presented with educational material on concussions and will then sign a statement in which the coach and student-athlete accept the responsibility for reporting the student athlete's injuries and illnesses to the athletic training staff, including signs and symptoms of concussions.
2. Concussion management begins with pre-season baseline testing. All student-athletes will complete the ImPact Concussion Assessment Baseline Exam and Baseline Balance Error Scoring System prior to the first practice in their first semester of participation. This baseline assessment taken will be used post-injury at appropriate time intervals.

Concussion Assessment

1. Upon suspicion of a concussion, the student-athlete **shall not return** to activity for the remainder of that day and be referred to our athletics healthcare provider as soon as possible or sent to the emergency room for further evaluation and treatment plan. **No athlete is permitted to return to play while symptomatic following a concussion.**
2. The following protocol is to apply:
 - a. Baseline Testing: conducted on each student athlete upon entering as a first-year student, transfer or for those student athletes sustaining a concussion the previous season (re-baseline)

- b. Time of Injury: clinical evaluation & symptom checklist; referral if necessary
 - c. 1-3 hrs post-injury: symptom checklist; referral if necessary
 - d. Next Day: follow-up clinical evaluation & symptom checklist
 - e. Follow-up evaluations daily to track symptom recovery
3. Muhlenberg College's Team physician or designated healthcare provider or combination of health care provider and athletic trainers will determine return-to-play guidelines when asymptomatic and post-exertion assessments are within normal baseline limits, the return-to-play progression should occur in a medically supervised stepwise fashion with gradual increments in physical exertion and risk of contact.
4. After a period of remaining asymptomatic, the first step is to determine where the student athlete is relative to baseline on the following measures:
 - a. Symptom Assessment
 - b. Neuropsychological Assessment
 - c. Balance Assessment

If the measures (a-c) listed above are satisfactory to baseline according to the physician and the athlete remains asymptomatic for 1 additional day following these tests, the physician can instruct the athletic trainer to begin a graduated exertional return to play (RTP) protocol with the athlete to assess for increasing signs and symptoms. Symptoms should be reassessed immediately following exertional RTP protocol.

5. The RTP protocol begins with:
 - a. Step 1: "exertional challenge" in which the athlete exercises for 15 to 20 minutes in an activity such as biking or running in which he/she increases his/her heart rate and breaks a sweat.
 - b. Step 2: Steady increase in exertion which may include change in elevation drills.
 - c. Step 3: Return-to-sport specific activities that do not put the athlete at risk for contact
 - d. Step 4: Limited, controlled return to full-contact practice and monitoring for symptoms
 - e. Step 5: Full sport participation in a practice
6. No athlete can return to full activity or competitions until they are asymptomatic in limited, controlled, and full-contact activities, and cleared by the team physician.

IF AT ANY POINT DURING THIS PROCESS THE ATHLETE BECOMES SYMPTOMATIC THE ATHLETE SHOULD BE RE-ASSESSED DAILY UNTIL ASYMPTOMATIC. ONCE ASYMPTOMATIC, THE ATHLETE SHOULD THEN FOLLOW STEPS 1-4 ABOVE.

7. The athletics medical staff will provide incident documentation, evaluation, continued management, and clearance of the student-athlete with a concussion.
8. Repeat neuro-psychological testing for returning concussed student athlete prior to the following year to establish a new “baseline”.
9. Athletics staff, student-athletes and officials should continue to emphasize that flagrant head or neck contact in any sport should not be permitted and current rules of play be strictly enforced.

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