**Albion College Athletic Training Department**

**Protocol and Procedures for**

**Management of Sports-Related Concussion**

Medical management of sports-related concussion is evolving. In recent years, there has been a significant amount of research into sports-related concussion in collegiate athletes. This protocol outlines procedures for staff to follow in managing head injuries, and outlines institutional policy as it pertains to return to play issues after concussion. It is a template based on current research and best-practice. Specific situations may deviate from these procedures. Systematic differences should be noted and changed within the document. The protocol attempts to provide guidance and structure to insure safe participation in sports.

Albion College seeks to provide a safe return to activity for all athletes after injury, particularly after a concussion. In order to effectively and consistently manage these injuries, procedures have been developed to aid in ensuring that concussed athletes are identified, treated and referred appropriately, receive appropriate follow-up medical care during the school day, including academic assistance, and are fully recovered prior to returning to activity.

In addition to recent research, the primary document referenced in developing this protocol is “National Athletic Trainers’ Association Position Statement: Management of Sport-Related Concussion” (referred to in this document as the NATA Statement).

This protocol will be reviewed on a yearly basis by the athletic training staff. Any changes or modifications will be reviewed and given to athletic department staff and appropriate school personnel in writing.

# Overview: the primary components of the protocol

## Albion College has unique needs, resources and capabilities within this set of elements (sections II-XIII, below); the details provided are for example and to provide guidance.

## Benchmarks of the program:

### Education and training of participants

### The goal is to have all medical staff up to date on their knowledge on concussion management;

### Educate college administrators, coaches, parents, athletes and physicians about the school protocol;

### Baseline cognitive assessments for all appropriate (collision & contact sports) athletes;

### Follow-up physical, symptom and cognitive assessments of identified injuries within 72 hours (allows for Friday games to Monday AM);

### Communication with responsible MD, neurologist (if warranted), parent, coach, health services, and academic services about injury and assessments;

### Continued monitoring and assessment until cleared for return-to-play (RTP) exertion protocol;

### Clearance to begin RTP process when symptoms and cognitive testing have returned to athlete’s baseline;

* + - 1. When disagreement arises between treating professionals, the more conservative approach takes precedence;

### Step-wise exertion protocol leading to RTP monitored by certified athletic trainer (AT).

7. The Sports Medicine Team, which includes; Team Physician, Physician Assistants, Neurologist (upon physician referral) and Athletic Trainers, will have unchallengeable authority to determine management and return-to-play status.

# Recognition of concussion

## Definitions

### Concussion: there is no universal agreement on the standard definition or nature of concussion; however, agreement does exist on several features that incorporate clinical, pathologic and biomechanical injury constructs associated with head injury:

### Concussion may be caused by a direct blow to the head or elsewhere on the body from an ‘‘impulsive’’ force transmitted to the head.

### Concussion may cause an immediate and a typically short-lived impairment of neurologic function.

### Concussion may cause neuropathologic changes; however, the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury.

### Concussion may cause a gradient of clinical syndromes that may or may not involve loss of consciousness (LOC). Resolution of the clinical and cognitive symptoms typically follows a sequential course.

### Concussion is most often associated with normal results on conventional neuroimaging studies (C-T scan).

### Second Impact Syndrome - A rare phenomenon of diffuse brain swelling with delayed catastrophic deterioration has been labeled “second-impact syndrome” due to the belief held by some that it occurs as the result of a second concussion before the effects of the initial concussion have resolved. While rare, it is catastrophic and a major concern.

#  Common signs and symptoms of sports-related concussion.

## Signs (observed by others):

### Athlete appears dazed or stunned

### Confusion (about assignment, plays, etc.)

### Forgets plays

### Unsure about game, score, opponent

### Moves clumsily (altered coordination)

### Balance problems

### Personality change

### Responds slowly to questions

### Forgets events prior to trauma

### Forgets events after the trauma

### Loss of consciousness (any duration)

## Symptoms (reported by athlete):

### Headache

### Fatigue

### Nausea or vomiting

### Double vision, blurry vision

### Sensitive to light or noise

### Feels sluggish

### Feels “foggy”

### Problems concentrating

### Problems remembering

## These signs and symptoms are indicative of probable concussion. Other causes for symptoms should also be considered. It is important to review medical history and baseline symptoms from screening/baseline.

# Cognitive impairment (altered or diminished cognitive function)

##  General cognitive status can be determined by simple sideline cognitive testing.

### AT will utilize Balance Error Scoring System (BESS), Graded Symptom Symptom Checklist, and Standardized Assessment of Concussion (SAC)

# Baseline assessment

## Prior to practices and competitions, all collision and contact sport athletes will receive baseline testing.

### Axon Concussion Test

### Concussion Symptom Checklist (Appendix B)

#  Management and Referral Guidelines

## Sideline Management – General Guidelines

### Sideline assessment will be administered by AT to every athlete who is suspected of receiving a blow to the head and/or displaying concussion-like signs and symptoms. The SCAT or SAC card or other tool will be used to assess orientation, memory, concentration and other symptoms.

### History and verbal examination, special tests, and physical exertion will be used to determine the presence and severity of the concussion, and to help the athletic trainer identify the appropriate referral course.

### The general approach will be as described below:

## Assess subjective complaints (Concussion Symptom Checklist-Appendix B)

## Assess loss of consciousness, orientation and memory (SAC)

### Did the athlete black out?

### Orientation…date, day of the week, approximate time of day

### Game/practice details (opponent, current game situation, recent plays or drills, knowledge of their position/role…)

### Assess athlete’s memory of events preceding the blow (i.e., how did you get to the stadium today) and since the blow (recall of the event and if appropriate, plays or other events that occurred after the event).

### Immediate recall: Use a 5-word list (ie, dog, ball, lotion, game, and restaurant).

### Delayed recall: After completing remainder of evaluation (5 minutes or so), ask athlete to repeat the 5 words.

### Concentration: Recite months of the year in reverse order beginning at a random month.

### Concentration: 3, 4 and 5-digit number string repeated backwards.

### Special Tests

## Assess Cranial Nerves

## Assess Dermatomes and Myotomes

## Any athlete suspected of having a concussion by the AT, Physician or Coach should be removed from play.

# Suggested guidelines for on-field management of sports-related concussion in the absence of an AT

## Any athlete with a witnessed loss of consciousness (LOC) of any duration should be transported immediately to nearest emergency department via emergency vehicle. The athlete should be spine boarded if a cervical spine injury is suspected.

## Any athlete who has symptoms of a concussion, and who is not stable (i.e., condition is changing or deteriorating), is to be transported immediately to the nearest emergency department via emergency vehicle. Recognize, Remove, Refer!

### Deterioration of neurological function

### Decreasing level of consciousness

### Decrease or irregularity in respirations (difficulty breathing)

### Decrease or irregularity in pulse

### Unequal, dilated, or unreactive pupils

### Any signs or symptoms of associated injuries, spine or skull fracture, or bleeding

### Mental status changes: increasing lethargy, confusion or agitation and/or difficulty maintaining arousal

### Seizure/posturing activity

### Vomiting

## Any athlete suspected of sustaining a concussion should be evaluated by a health care professional (i.e. Albion Athletic Training Staff, Albion College Health Services, Emergency Room, or Urgent Care Center)

## The coach/AD should contact the AT to advise him/her of the injury.

## Do not permit the athlete to drive when you suspect a concussion.

# Procedures for the Certified Athletic Trainer (AT)

## The AT will assess the injury, or provide guidance to the coach if unable to personally attend to the athlete.

### Immediate referral to the Albion College Team Physician or to the hospital will be made when deemed necessary.

### The AT will perform a concussion evaluation as previously outlined.

## The AT will continue to provide coordinated care with the Albion College Health Services or Physician for the duration of the injury.

### The AT will notify Albion College Health Services of the injury, if symptoms do not improve within 5 days, or if symptoms deteriorate.

### The AT will communicate with Albion College Health Services and Student Affairs (studentaffairs@albion.edu) regarding the athlete’s neurocognitive and recovery status, if needed, and/or initiate procedures for academic accommodations for athlete.

### The AT will communicate with the athlete’s treating physician/provider then keep the other health care providers and athletic personnel apprised of physician guidelines.

## The AT will notify:

## 1. Student-athletes’ parents may be notified after obtaining the student-athletes’ permission. If student-athlete is younger than 18 years of age, parents will be notified automatically.

## The AT is responsible for administering post-concussion cognitive testing.

### Whenever possible, the initial post-concussion test will be administered within 24-72 hours post-injury.

### Repeat post-concussion tests will be given at appropriate intervals, dependent upon clinical presentation (typically after symptoms have returned to baseline).

### AT will send notification of test data for neurologist to review if the athlete has been referred.

### The AT will review post-concussion test data with the athlete.

### The AT will forward testing results to the athlete’s treating physician.

## The AT will monitor the athlete, and keep Health Services informed of the individual’s symptomatology and neurocognitive status, for the purposes of developing or modifying an appropriate health care plan for the student-athlete as necessary.

## The AT is responsible for monitoring recovery and coordinating the appropriate return to play activity progression.

## The AT will maintain appropriate documentation regarding assessment and management of the injury.

#  Guidelines and procedures for Neurologist Referral

## The treating physician will refer the athlete to a Neurologist at their discretion.

## The Neurologist will then communicate with AT, treating physician, or Albion College Health Services regarding any needed accommodations or treatment interventions at Albion College.

# Follow-up Care: Responsibilities of the Athletic Trainer

## After the initial assessment the athlete will be instructed to report to the athletic trainer the following day. At that point, the athletic trainer will:

## Re-evaluate the athlete utilizing a Axon and Graded Symptom Checklist.

## Follow the Albion College Concussion protocol for daily follow-up and eventual RTP.

## Communicate with the athlete’s treating physician/provider then keep all others apprised of physician recommendations.

# Return to Play (RTP) Procedures after concussion

## Returning to participate on the same day of injury

### An athlete who exhibits signs or symptoms of concussion, or has abnormal cognitive testing, **should not be permitted to return to play on the day of the injury**.

### Any athlete who denies symptoms but has abnormal sideline cognitive testing **should be held out of activity**.

###  **“When in doubt, hold them out.”**

## Return to play after concussion

###  The athlete must meet all of the following criteria in order to progress to activity:

### Asymptomatic at rest for at least 24 hours and with exertion (including mental exertion in class) AND:

### Within normal range of baseline on post-concussion neurocognitive testing

### Athlete clearance is determined by return to baseline scores for all post-concussion testing, as well as asymptomatic exertional testing (running, push-ups, sit-ups, weight lifting, jumping, and sport-specific activity).

### In the case of a disagreement between medical professionals that cannot be resolved by discussion between them, **the more conservative opinion** will take precedence.

### Once the above criteria are met, the athlete will be progressed back to full activity following a stepwise process, (as recommended by both the Zurich and NATA Statements) under the supervision of the AT.

### Progression is **individualized, and will be determined on a case by case basis. As educated health care professionals it is our job to make sure the student-athlete is safe, therefore we may have to make recovery longer.**

### Factors that may affect the rate of progression include: **previous history** of concussion, **duration** and **type of symptoms**, age of the athlete, and **sport/activity** in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport should be progressed **more slowly**.

### Stepwise progression as described in the Zurich Statement:

### Only light (tolerated) activities of daily living including physical and mental activity – do not progress to step *B* until asymptomatic

### Light aerobic exercise – walking, stationary bike

### Sport-specific training (e.g., skating in hockey, running in soccer)

### Non-contact training drills

### Full-contact training after medical clearance

### Game play

### Note: If the athlete experiences post-concussion symptoms during any phase, the athlete must stop all activity until all symptoms have should resolved and then resume the progression after 24 hours.

### If symptoms (including test scores) persist for more than 5 days post injury, or the athlete’s condition deteriorates, the athlete will be referred to a physician.

## The AT and athlete will discuss appropriate activities for the day. The athlete will be given verbal or written instructions regarding permitted activities. The athlete should see the AT daily for re-assessment and instructions until he, or she, has progressed to unrestricted activity.

## Coaches should be informed of the athlete’s status daily and notified when the athlete is cleared for RTP.

# Disqualifying an Athlete

## Season- The decision for disqualification for the season will be based on the recommendations of a physician and the medical team. Concussion history, severity of episodes, and athlete’s future health should be considered when this decision is made.

## Career- Disqualification from a certain sport will be done in the same manner as the season disqualification above. This may only keep this athlete from contact and collision sports.

# Home Instruction

## Roommates/Resident Advisor/Resident Director may be notified the day of the suspected concussion depending on the severity. A concussion information sheet may be given to the athlete or roommate. Athlete should not drive if a concussion is suspected.

## Special Considerations- if the AT feels that the concussion may be significant enough to warrant wake-ups during the night, specific instructions will be given.

Approved by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Medical Director Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approved by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Head Athletic Trainer Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approved by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Director of Athletics Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Appendix A - Sports to be included in neurocognitive baseline testing**

Fall:

Football

M &W Soccer

Volleyball

Winter:

 M &W Basketball

Diving

Spring:

 M &W Lacrosse

 Baseball

 Softball

 Track and Field (jumping athletes)

**Appendix B**



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