



2018-2019

Morehead State University's Protocol for  
Management of Traumatic Brain Injury

## Concussion Protocol

A concussion is defined as a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces. Loss of consciousness may or may not occur. Confusion and amnesia are the hallmarks of a concussion. A confusional episode and/or amnesia may occur immediately after impact to the head or several minutes later. Close observation and assessment of the athlete over some period of time is necessary to determine whether evolving neuropathologic change associated with concussion will lead to a confusional state or to the development of memory dysfunction. A history of recent head trauma outside the sports setting, such as a motor vehicle accident, should be considered in the evaluation of an athlete with possible concussion.

### Signs and Symptoms of a Concussed Athlete

#### **Features of a concussion may include:**

- Vacant stare (befuddled facial expression)
- Delayed verbal and motor responses (slow to answer questions or follow instructions)
- Confusion and inability to focus attention (easily distracted and unable to follow through with normal activities)
- Disorientation (walking in the wrong direction, unaware of time, date and place)
- Slurred or incoherent speech (making disjointed or incomprehensible statements)
- Loss of coordination (stumbling, inability to walk tandem/straight line)
- Emotions out of proportion to circumstances (distraught, crying for no apparent reason)
- Memory deficits (exhibited by the athlete repeatedly asking the same question or inability to memorize and recall 3 of 3 words or 3 of 3 objects in 5 minutes)
- Any period of loss of consciousness (paralytic coma, unresponsiveness to arousal)

#### **Symptoms can be divided into “early and late” categories and can include the following:**

- *Early (minutes and hours)*
  - Headache
  - Dizziness or vertigo
  - Lack of awareness of surroundings
  - Nausea or vomiting

- *Late (days to weeks):*
  - Persistent low grade headache
  - Light-headedness
  - Poor attention and concentration
  - Memory dysfunction
  - Easy fatigability
  - Irritability and low frustration tolerance
  - Intolerance of bright lights or difficulty focusing vision
  - Intolerance of loud noises, sometimes ringing in the ears
  - Anxiety and/or depressed mood
  - Sleep disturbance
  - Blurred vision

## Pre-season Education and Testing

### **Education**

All athletes will be educated as to how a concussion can occur, the signs and symptoms, the dangers of playing while concussed, and the importance of reporting symptoms of a concussion.

### **Testing**

Every new or transfer student-athlete will be required to complete a baseline ImPACT test prior to participating. This test will be administered by the Sports Medicine staff of MSU. These assessments will be kept on file in the MSU Athletic Training Center.

## Management of Concussed Athlete

### **Acute Management:**

- Any student-athlete who is suspected to have a concussion will be immediately removed from activity and/or competition for the remainder of the day.
- A sideline evaluation exam will be performed to obtain an acute baseline for the student-athlete.
- Student-athlete will be monitored until released to go home by medical staff.
- Student-athlete will be given a home instructions sheet with follow-up information.

***\* If at any point an athlete shows signs of deterioration, the athlete is to be referred to the local Emergency Room.***

### **Post-Acute Management:**

- Student-athlete will be referred to the team general practitioner for evaluation and/or referral at the earliest available appointment time.
- Once an athlete has been asymptomatic for 24 hours, the ImPACT test will be administered for evaluation and comparison to the athlete's baseline scores. Scores will be reported to the team general practitioner. Re-testing will be administered per general practitioner orders.
- Return to play protocol will be administered per the team general practitioners orders.

## **Return to play protocol:<sup>1</sup>**

- Step 1: No symptoms for a 24 hour period
- Step 2: Light aerobic exercise
- Step 3: Sport-specific exercise
- Step 4: Non-contact training drills
- Step 5: Full contact practice
- Step 6: Return to play

***\* Athlete should not experience signs or symptoms during each stage. If symptoms begin to occur, athlete should stop activity and return to previous step once symptoms have not been present for 24 hours.***

Return to play will be determined by the team general practitioner and/or referred specialist.

1. P. MCCROY, W. MEEUWISSE ET AL., CONSENSUS STATEMENT ON CONCUSSION IN SPORT- THE 3<sup>RD</sup> INTERNATIONAL CONFERENCE ON CONCUSSION IN SPORT, HELD IN ZURICH, NOVEMBER 2008. JOURNAL OF CLINICAL NEUROSCIENCE 16 (2009)755-763.



## **SIGNS AND SYMPTOMS CHECKLIST – SIDELINE**

- *Within minutes and hours)*
  - Disorientation & Confusion – Inability to Focus.
  - Vacant Stare – Confused Facial Expression
  - Slurred or Incoherent speech.
  - Delayed Verbal & Motor Response to Questions
  - Headache
  - Dizziness or vertigo
  - Lack of Memory
  - Loss of Coordination (Stumbling, Inability to Walk or do so in a Straight Line)
  - Lack of awareness of surroundings
  - Nausea or vomiting
  - Unconsciousness
  - Emotions Disproportion to Situation