



Concussion Assessment, Management, and Return to Play Guidelines

The following policy and procedures on neurocognitive baseline testing and subsequent assessment and management of concussions as well as return to play guidelines has been developed in accordance with the Dakota State University Athletics Mission Statement to provide quality healthcare services and assure the well-being of each student-athlete at DSU.

PURPOSE:

The Dakota State University Sports Medicine Department recognizes that sport induced concussions pose a significant health risk for those student-athletes participating in athletics at Dakota State University. With this in mind, the Sports Medicine Department has implemented policies and procedures to assess and identify those student-athletes who have suffered a concussion. The Department also recognizes that baseline neurocognitive testing on student-athletes who participate in those sports which have been identified as collision and or contact sports and/or who have had a history of concussions prior to entering Dakota State University will provide significant data for return to competition decisions. This baseline data along with physical examination, and/or further diagnostic testing will be used in conjunction in determining when it is safe for a student athlete to return to competition.

CONCUSSION DEFINITION:

Violent shaking or jarring action to brain, usually as a result of impact with an object or ground. This results in immediate partial or complete impairment of neurological function.

SIGNS AND SYMPTOMS OF CONCUSSION:

Certified athletic trainers and athletic training students all need to be aware of the signs and symptoms of concussion to properly recognize and intervene on behalf of the student-athlete.

Physical Symptoms	Cognitive Symptoms	Emotionality Symptoms
Headache	Memory Loss	Irritability
Vision Difficulty	Attention Disorders	Sadness
Nausea	Reasoning difficulty	Nervousness
Dizziness		Sleep Disturbances
Balance Difficulties		
Light sensitivity		
Fatigue		

BASELINE ASSESSMENT

All incoming freshman or those first time entering DSU student-athletes who are participating in those sports which have been identified as a contact or collision sport and /or who have had a previous history of concussions as identified by their health history will have a baseline neurocognitive test performed as part of their athletic medical screening. Currently the DSU Sports Medicine Department utilizes the IMPACT™ concussion management system (Impact.com). The IMPACT™ system is a Windows-based user-friendly computer program which consists of 10 modules designed to test cognitive functioning.

Beginning in the fall of 2011 the sports which will currently undergo baseline neurocognitive testing are as follows:

- Football
- Men's Basketball
- Women's Basketball

CONCUSSION MANAGEMENT AND RETURN TO PLAY GUIDELINES

In any circumstance where a concussion is suspected in an athlete, the first priority is to remove the athlete from further competition until a thorough sideline assessment can be made. Furthermore, if there is a question about the state of mental clearing it is best to err in the direction of conservative assessment and withhold the athlete from further competition until a physician assessment can be arranged.

The recommendations in this document for the management of concussion are based on review of the medical literature including, but not limited to, statements by the American Academy of Neurology, Robert C. Cantu, MD, Colorado Medical Society and the NCAA Manual of Sports Medicine.

While there is no clear consensus regarding prognostic significance of many physical manifestations in the post-concussion setting, there is general agreement that these symptoms do assist in the grading of concussion severity. This grading is pivotal management of concussion.

Proposed Concussion Grading Scale:

Grade 1

- Transient Confusion
- No Loss of Consciousness
- Post-Concussive symptoms lasting < 15 min

Grade 2

- Transient Confusion
- No Loss of Consciousness
- Post-Concussive symptoms lasting > 15 min but < 60 min

Grade 3

- Any Loss of Consciousness
- Confusion or Concussive symptoms lasting > 60 min

SIDELINE MANAGEMENT OF CONCUSSIONS

Grade 1 Concussions

1. If all situations where a concussion is suspected the first step is to removed the athlete from competition.
2. The athlete should be assessed every 5 minutes until post-concussive confusion has cleared.
3. If the athlete has no confusion at 15 minutes and is free of the Common Signs and Symptoms listed above, have the athlete perform exert ional sport specific drills
4. If the athlete remains free of symptoms and has a negative Romberg Exam, the athlete may return to competition that day.
5. In all circumstances document the player name, position, circumstance of injury, duration of confusion and any post-concussive symptoms. All athletes' who sustain a concussion should be referred for neurocognitive testing and evaluation with team physician within 24 hours.

Grade 2 Concussions

1. If all situations where a concussion is suspected the first step is to removed the athlete from competition.
2. Assess the athlete for post-concussive clearing of his/her confusion every 5 minutes for the first 30 minutes, then every 15 minutes until symptoms resolve.
3. Document the player name, position, circumstance of injury, duration of confusion and any post-concussive symptoms.
4. The athlete should **NOT** return to the current competition, even if symptoms completely clear.
5. The athlete should be referred for neurocognitive testing and evaluation by the team physician within 24 hours of the injury.

Grade 3 Concussions

1. All athlete's with documented loss of consciousness *or* post-concussive confusion lasting more than 60 minutes shall be considered to have a Grade 3 concussion.
2. If the athlete remains unconscious, he/she should undergo cervical spine immobilization and be transported by rescue squad to the nearest emergency department.
3. When the loss of consciousness is brief (<15 seconds) or the athlete has prolonged post-concussion confusion, evaluation should be conducted by the Team Physician (or his local equivalent in travel situations) or the Emergency department in an expedient manner.
4. Assess the athlete for post-concussive clearing of his/her confusion every 5 minutes for the first 30 minutes, then every 15 minutes until symptoms resolve.
5. Document the player name, position, circumstance of injury, duration of confusion and any post-concussive symptoms.
6. The athlete should **NOT** return to the current competition, even if symptoms completely clear.
7. The athlete should be referred for neurocognitive testing and evaluation by the team physician within 24 hours of the injury.

The Department of Sports Medicine recognizes that it may not be possible for neurocognitive testing to take place within a 24 hour time frame due to team travel and other difficulties. With that in mind, it is necessary to plan for neurocognitive testing as soon as possible for the student-athlete, when they return to campus and for an evaluation with the team physician.

RETURN TO PLAY GUIDELINES:

Outside of circumstances where an athlete sustains a Grade 1 concussion with no alteration, in mental state and complete resolution of all concussion signs and symptoms, should a Certified Athletic Trainer allow an athlete to return to play without consultation with the team physician. The athlete still needs to be referred for neurocognitive testing and an evaluation with the team physician within a 24 hour period of initial injury, if possible.

Neurocognitive testing in conjunction with the team physician, physical exam, and additional diagnostic tests as needed will determine when a student-athlete will return to activity. Neurocognitive testing will be scheduled for 24 hours post initial injury and then subsequently every 48 hours, until the student-athlete scores at their baseline level, or an equivalent that is acceptable by team physician.

Continued post-concussive symptoms, prior concussion history and any diagnostic testing results along with neurocognitive testing and physical exam, will be utilized by the team

physician in establishing a timeline for an athlete's return to activity. It is important to note that this timeline could last over a period of days to weeks or months, or potential medical disqualification from Dakota State University athletics. All cases will be handled on a case-by-case basis. The decision by the Team Physician for all cases of an athlete's return to activity is final.

SUMMARY:

The Dakota State University Athletic Department is committed to providing quality health care services for all student-athletes. As such, the DSU department is very proactive in the assessment and management of concussions. To do so limits the risks of concussions associated with athletics, and the potential catastrophic and long-term complications from said concussions.