

**Policy: Concussion Management Plan**  
**Date: July 1, 2011**  
**Responsibility: Athletic Training**



**Purpose:** The Citrus College Department of Intercollegiate Athletics is committed to the safety and well being of its student-athletes. It is committed to the prevention, identification, evaluation and management of concussions. Therefore, the Department of Kinesiology & the Department of Intercollegiate Athletics, in accordance with NCAA policy for institutions, has adopted a team physician-directed Concussion Management Plan for its student-athletes who exhibit signs, symptoms, or behaviors consistent with a concussion. The plan addresses the removal from practice or competition, evaluation by an experienced healthcare provider, and the criteria for medical clearance to return to activity. Student-athletes are required to sign the Citrus College Notice of Risk Concussion Statement which also addresses concussion signs and symptoms. The Athletic Training staff will annually present to coaches and student-athletes educational material on concussions.

**Definition of Concussion:** In accordance with the 3rd International Conference on Concussion in Sport (2008), a cerebral concussion is defined as a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces.

Common elements of concussions include:

1. May be caused by a direct blow to the head or elsewhere on the body with an 'impulsive' force transmitted to the head.
2. Typically result in a rapid onset of short-lived impairment of neurologic function that resolves spontaneously.
3. May result in neuropathological changes, but acute clinical symptoms largely reflect a functional disturbance rather than structural injury.
4. Result in a graded set of clinical symptoms that may or may not involve loss of consciousness.
5. Resolution of the clinical and cognitive symptoms typically follows a sequential course, but post-concussive symptoms may be prolonged.
6. No abnormality is evident on standard structural neuroimaging studies.

**Signs and Symptoms of Concussion:** Concussions may cause abnormalities in clinical symptoms, physical signs, behavior, balance, cognition, and/or sleep. Signs and symptoms of concussions include, but are not limited to:

Headache	Inability to focus
Loss of consciousness	Delayed verbal or motor responses
Visual disturbances	Feeling like 'in a fog' or dazed
Confusion or disorientation	Ringing in ears
Amnesia Irritability	Dizziness or balance problems
Emotional lability	Slurred or incoherent speech
Fatigue or feeling slowed down	Nausea or vomiting
Excessive drowsiness	Vacant stare
Sleep disturbances	

**Evaluation:** Any student-athlete exhibiting signs and symptoms of a concussion will be **immediately removed from play and evaluated by a physician, certified athletic trainer, or experienced healthcare provider.** A physical and mental status examination will be performed by the athletics' healthcare provider. Any student-athlete diagnosed with a concussion **shall not return to activity for the remainder of that day.** The student-athlete will be serially monitored for deterioration and will be provided with written instructions if discharged home after suffering a concussion.

**Referral to Emergency Department:** Appropriate activation of the on-site Emergency Action Plan will occur for any student-athlete exhibiting focal neurological deficits, progressive or worsening signs and symptoms, and/or signs and symptoms of associated injuries (e.g. neck injury).

**Physician Referral:** Student-athletes who experience a concussion associated with loss of consciousness, worsening signs/symptoms, and/or post-concussive signs/symptoms lasting greater than 24 hours will be referred to a physician and will not be allowed to return to activity until cleared by the physician.

**Return to Participation Protocol:** Student-athletes suffering a concussion must be sign/symptom free at rest for a minimum of 24 hours, baseline testing WNL and clearance from Team Physician before starting any exertional activity. Student-athletes will complete the following protocol in sequence before returning to full activity. The student-athlete must remain sign/symptom free for 24 hours following each step before progressing to the next step. If signs/symptoms occur during a step, the student-athlete will revert back to the previous step for a minimum of 24 hours before attempting the progression again.

**Step 1:** Aerobic Exercise/Agility Drills

**Step 2:** Non-Contact Sport Specific Activity

**Step 3:** Full Competitive Practice

**Step 4:** Game/Competition

**Post-Concussion Testing:** Student-athletes involved in sports with an increased risk of concussion (i.e. baseball, basketball, cheerleading, diving, football, gymnastics, pole vaulting, soccer, and wrestling) will undergo pre-participation baseline neuropsychological testing using the ImPACT testing system. Post-concussion testing will be performed and compared to baseline values in these student-athletes to aid in clearance decisions. Neuropsychological consultation will be obtained for appropriate student-athletes as determined by the physician. Post-concussion balance testing may also be utilized as needed to assist with clearance decisions.

**Multiple Concussions:** Any student-athlete suffering two or more concussions within the same calendar year will not be eligible to return to activity until evaluated and cleared by a physician.

**Baseline Testing:** Symptom checklist, a modified Standard Assessment of Concussion (SAC), and IMPACT testing data obtained for athletes in high-risk sports for concussion (baseball, basketball, football, pole vaulting, soccer, softball, and water polo), or with pertinent medical history of concussion.

**Concussion Identified and Assessed:** Physical examination and assessment of concussion symptoms by medical staff (athletic trainer, physician assistant, and/or physician). If physician not immediately available, athlete should be referred to physician for evaluation within 24-48 hours of injury, if possible and if not emergent. If emergent, athlete should be transported to closest emergency department. Athlete exhibiting signs/symptoms of a concussion will be held from all physical activity, given concussion information home instruction sheet, and notification to parent/guardian of the concussion. Athlete repeats baseline testing with Symptoms checklist, a modified Standard Assessment of Concussion (SAC), and IMPACT (within 24 hours of injury, if possible).

**Concussion Management:** Athlete held from all physical activity. Implement DHA Omega-3 supplementation (3 grams daily for 30 days or until asymptomatic if longer). Re-assessment of athlete daily by medical staff. Administration of the symptom checklist daily until completely asymptomatic. Notify academic advisor (consideration of academic modifications/restrictions), if necessary.

**Athlete Asymptomatic:** Athlete repeats baseline testing with Symptoms checklist, a modified Standard Assessment of Concussion (SAC), and IMPACT (unless directed otherwise by physician and/or neuropsychologist).

**Test Results Return to Baseline:**

Perform exertional testing and re-evaluation by physician for return to play decision.

**Test Results NOT Returned to Baseline:** When medically cleared by physician, repeat test battery and consider neuropsych consult with a more detailed test battery. When medically cleared by physician, repeat exertional testing and re-evaluation by physician for return to play decision.

