



UNIVERSITY OF COLORADO
SPORTS MEDICINE DEPARTMENT OF INTERCOLLEGIATE ATHLETICS
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Concussion Evaluation & Return to Play Guidelines

Educational Management Plan

1. NCAA Concussion Fact Sheet and other applicable materials provided annually to:
 - a. Coaches
 - b. Student-Athletes
 - c. Athletic Administrators
 - d. Team Physicians
 - e. Athletic Trainers
2. Each party provides a signed acknowledgement of having read and understood the concussion material.

Management plan for reducing exposure to head trauma

1. Adherence to Interassociation Consensus: Year-Round Football Practice Contact Recommendations
2. Adherence to Interassociation Consensus: Independent Medical Care for College Student-Athletes Best Practices
3. Reducing gratuitous contact during practice
4. Taking a 'safety-first' approach to sport
5. Taking the head out of contact
6. Educating coaches and student-athletes regarding safe play and proper technique

The University of Colorado Sports Medicine personnel will serially evaluate possible sport related concussive student-athletes as per the following guidelines:

- I. Concussion History Intake Form** – *Gathering of concussion history and baseline testing will be done prior to the student-athlete's pre-participation examination. Results will be reviewed by the Team Physician prior to clearance. Only the Team Physician will determine pre-participation clearance. All varsity student-athletes will undergo baseline testing at least once.*
 - A. Concussion History Intake Form**
 - B. Neurocognitive Assessment – ImPACT**
 - C. Sport Concussion Assessment Tool 5 (SCAT 5)**
 - D. Oculovestibular Assessment**
- II. Time of Injury** – *For any athlete with a Glasgow Coma Scale <13, prolonged loss of consciousness, focal neurological deficit, repetitive emesis, deteriorating mental status or spinal injury, the Emergency Action Plan (EAP) should be followed. If a concussion is suspected, the following will be performed:*



- A. Sport Related Concussion (SRC) Evaluation Symptom Scale**
- B. Physician and/or designee evaluation (if applicable and available)**
- C. Evaluation for cervical spine trauma, intracranial bleed, skull fracture**
- D. Oculovestibular Assessment**
- E. SCAT 5 (cognitive and balance evaluation)**
- F. Take Home Concussion Fact Sheet (given to student-athlete and accompanying responsible person if applicable)**

Note

Any student-athlete that serially exhibits signs, symptoms or behaviors consistent with a concussive injury will be removed from participation. These symptoms include, but are not limited to:

1. Altered level and/or loss of consciousness;
2. Confusion, as evidenced by disorientation to person, time, or place; inability to respond appropriately to questions; inability to process information correctly and/or respond appropriately to analytical questions; or inability to remember assignments and/or plays;
3. Amnesia (anterograde and/or retrograde; immediate or delayed);
4. Abnormal neurological examination (i.e. abnormal pupillary response, persistent dizziness or vertigo, abnormal balance, etc.);
5. New and persistent headache, particularly if accompanied by photosensitivity or other visual disturbances, tinnitus, nausea, vomiting, or dizziness; and/or
6. Any other persistent signs or symptoms of a concussive injury should be withheld from participation for the remainder of that day.

Once removed from participation, the student-athlete must be evaluated by an ATC and/or Team Physician and will not be allowed to return to participation that same day. The student-athlete will follow the outlined guidelines for management of his/her injury and will not be considered for return to participation until he/she has fully returned to self-reported baseline symptoms (SRBS) at both rest and exertion, physical exam and cognitive assessments are within normal baseline limits, and he/she has been cleared for participation by the University of Colorado Team Physician and/or his/her designee. Progression through stages of return to play guidelines may be individualized by the Team Physician.

III. Post-Concussion Follow-Up

- A. SRC Evaluation Symptom Scale**
- B. Physician and/or his/her designee evaluation and/or consultation**
- C. Oculovestibular Assessment**

Note

During the early period of recovery following injury, the student-athlete should NOT engage in physical AND cognitive activities which exacerbate his/her symptoms. When the student-athlete is at SRBS they will be re-evaluated by a Team Physician or designee. Any student-athlete demonstrating prolonged recovery shall undergo additional evaluation by the Team Physician.



IV. Interim Concussion Follow-Up

- A. SRC Symptom Scale followed daily.
- B. With routine symptom improvement the student-athlete may initiate light subthreshold therapeutic exercises at the physician's discretion (active recovery).
- C. Consider subthreshold targeted treatment based on clinical presentation.
- D. The SRC Evaluation Symptom Scale should be repeated daily until the student-athlete self-reports back to baseline symptoms. At that time the student-athlete will follow-up with a Team Physician and/or designee to determine clinical readiness to begin graded return to play progression.
 1. SRC Symptom Scale
 2. SCAT 5
 3. Oculovestibular Assessment
 4. Neurocognitive Assessment – ImPACT
 5. Can proceed to Step 1 of the graded return to activity progression after assessment if prescribed by a Team Physician

V. Return to Play Progression

A. Step 1 SRBS – Light aerobic exercise

- Examples include walking, swimming, or stationary cycling keeping exercise intensity <70% of maximum permitted heart rate. No head impact activities. No resistance training.
- Conducted in a controlled setting under the direction of a certified athletic trainer.

Note

The student-athlete should not proceed to exertion testing if he/she is symptomatic after taking the ImPACT or SCAT5 test. If the SA develops recurrent symptoms after taking the ImPACT or SCAT5 test they must wait until symptoms return to baseline to begin Step 1 procedure per physician direction.

If the student-athlete develops recurrent symptoms during exertion testing, the student-athlete should immediately stop exertional testing and wait at minimum until the next day and until at SRBS. The Team Physician should be consulted as to where the student-athlete should resume testing within the Step 1 procedure.

B. Step 2 SRBS – Sport-Specific Exercise

- Examples include running and agility drills. No head impact activities.
- Conducted in a controlled setting under the direction of a certified athletic trainer.

Note

If the student-athlete develops any post-concussion symptoms during the Step 2 procedure, the student-athlete should immediately stop all activity wait until the next day at minimum and until at SRBS. After the rest period and once the student-athlete is at SRBS, he/she may resume testing at the Step 2 level.



C. Step 3 SRBS – Non-Contact Training Drills

- Return to practice in a non-contact capacity
- Progress to more complex training drills
- Progressive resistance training

Note

If the student-athlete develops any post-concussion symptoms during the Step 3 procedure, the student-athlete should immediately stop all activity and wait at minimum until the next day and until at SRBS. After the rest period and once the student-athlete is at SRBS, he/she may resume testing at the Step 3 level. If the student-athlete is at SRBS with all activity on Step 3, consult with the Team Physician for return to full contact practice clearance.

D. Step 4 SRBS – Full Practice

- Return to full practice without restrictions

Note

If the student-athlete develops any post-concussion symptoms during the Step 4 procedure, the student-athlete should be immediately pulled from activity and allowed to rest and recover. The Team Physician should be consulted.

E. Step 5 SRBS – Return to Play/Competition: In order to be considered for return to play, the student-athlete must:

1. *Follow the outlined guidelines for management of his/her injury*
2. *Be at SRBS at rest, with exertion testing, and with supervised contact sport-specific activities*
3. *Be within normal baseline range on all post-exertion assessments*
4. *Be within normal baseline range on oculovestibular assessment*
5. *Be cleared for participation by a University of Colorado Team Physician and/or his/her designee*
 - Team Physician should complete the clinician report of Return To Activity Form within 24 hours of the athlete completing the return to play protocol steps.

For prolonged post-concussive symptomology targeted treatment through a multi-disciplinary approach will be followed.

Medical personnel with training in the diagnosis, treatment and initial management of acute concussion will be “present” at all hosted NCAA varsity competitions. Medical personnel with training in the diagnosis, treatment and initial management of acute concussion will be “available” (at a minimum, medical personnel can be contacted at any time during the practice via phone, messaging, email, or other immediate communication means) at all NCAA varsity practices for contact/collision sports.

