OVERVIEW

I. Definition of a Concussion: Consensus statement on concussion in sport-the 5th international conference on concussion in sport held in Berlin, October 2016

Sport related concussion (SRC) is a traumatic brain injury induced by biomechanical forces. Several common features that may be utilized in clinically defining the nature of a concussive head injury include:

1. SRC may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head.

2. SRC typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.

3. SRC may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.

4. SRC results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases, symptoms may be prolonged.

Classification of Concussion: Most (80–90%) concussions resolve within 2-4 weeks. Please note that the recovery time frame may be longer in children and adolescents.
II. Signs and Symptoms of a Concussion

May include but not limited to the following:

1. Drowsiness or loss of consciousness
2. Severe or increasing headache
3. Dizziness
4. Vomiting
5. Convulsions
6. Clear drainage from ears or nose
7. Loss of bladder control
8. Unequal pupil size (loss of reactivity to light)
9. Blurred or double vision
10. Tingling, numbness or lack of control of arms or legs
11. Poor balance and/or coordination
12. Unusual behavior, mental confusion
13. Concentration and/or memory loss
During COVID 19 Virtual/Hybrid learning, the MD clearance MUST state that the student/athlete is cleared for the use of technology.

During COVID 19 Virtual Learning, the RTP MUST be completed by the physician, not ATC.
CHAPIN STUDENT HEAD INJURY

Member of Professional Community
notices a student who sustained a head injury

Unconscious
- Dial 9-911
- Call Nurse ext. 4922
- Call Emergency Team Dial 0
- Nurse accompanies student to the hospital in ambulance
- Nurse or AT will contact parents

Conscious
- Escort student to the nurse
- AT will evaluate student
  - Symptomatic
    - Nurse and AT decide if student should go home
    - Nurse contacts parents
  - Asymptomatic
    - Student returns to class
    - Nurse contacts parents
Steps to follow when determining if a student can return to play and what academic considerations may need to be followed:

The following steps will be used to gauge a student’s readiness to return to play and to be fully engaged in their academic program. The student must be asymptomatic for 24 hours prior to repeating the step that caused symptoms to arise.

- Parents will be informed of Chapin’s Concussion protocol.
- Athletic Trainer will update the CMT (via email) in regards to the status of the student’s symptoms.
- The student will meet with her Supervisor to come up with an academic program based on the steps of the return to classroom protocol. (See sample plan on page 6).
- Supervisor or AT will let the student’s teachers know that a student has sustained a concussion and that certain academic modifications may be in place.
- Supervisor and AT will monitor academic progress and report any changes to the students teachers.

**STEPS FOR RETURN TO PLAY/ RETURN TO CLASSROOM**

The student will need medical clearance to begin step #3

**Note:** If a student is asymptomatic after a three day rest period, student will check with AT to be evaluated in order to resume normal activity.

Step #1. **During the first three days after injury, there should be no physical activity.** In addition, academic accommodations may need to be initiated. Example: Activities that require concentration and attention such as tests and homework may need to be postponed.

Step #2. The student must be asymptomatic for three days before any physical activity or academic work may begin. If the student returns to activity and academic work, and then begins to have symptoms again…. **they must stop activity immediately.**

Step #3. After the asymptomatic period, student may begin light aerobic exercise such as walking or stationary bike. Student may also begin to perform light academic work.

Step #4. The student may engage in sport specific exercises and in an increased level of academic work.

Step #5. The student may begin non-contact training drills and a continued increase in academic work.

Step #6. The student may return to full contact training and a full academic
workload.
Step #7. The student may return to game play and begin to make up any missed academic work.

Sample Return To Play Protocol: (Using Functional Exertion Test)
COMPLETED BY ANY OF THE FOLLOWING: MD, CONCUSSION CLINIC, AT

Day 1 (Step #3, pg. 5): Goal is to increase heart rate and begin cognitive activity
30-40 minutes of non-impact aerobic activity
Stationary Bike: 15 minutes with a 60-70% max heart rate
Cool Down: 5 minutes. If asymptomatic athlete can continue
Stationary Bike: 15 minutes with an 80% max heart rate. Try to maintain heart rate for 10-15 minutes
Cool Down: 5 minutes. If asymptomatic the athlete may do 1-1.5 hours of academic work.
  • Immediately stop activity if any symptoms arise

Day 2 (Step #4 pg. 5): Goal is to increase movement and extend cognitive stimulation
45-60 minutes of sport specific skills including, jogging, running, sprints. NO head impact activities in soccer and NO contact in any sport.
Cool Down: 5 minutes. If asymptomatic the athlete may do 1.5-2 hours of academic work.
  • Immediately stop activity if any symptoms arise

Day 3 (Step #5 pg. 5): Goal is to restore confidence and assess skills by coaches.
Student resumes full non-contact practice and normal academic workload.
  • Immediately stop activity if any symptoms arise.

Day 4 (Step #6 pg. 5): Goal is to increase confidence and assess skills by coaches.
Student continues with full contact practice and full academic workload.
  • Immediately stop activity if any symptoms arise

Day 5 (Step #7 pg. 6): Goal is to return to activity level that was present prior to sustaining the concussion. Student returns to competition and may begin to make up any missed academic work.
COVID-19 CONCUSSION PROTOCOL:
The above protocol

Resources:

Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016

Consensus statement on concussion in sport-The 4th International Conference on concussion in sport, held in Zurich, November 2012

2011 NATA Annual Meeting: Advance Track 4: Concussion Assessment: Updated Guidelines- Presented by Tamerah Hunt, PhD, ATC, CSCS, Chad Asplund, MD, FACSM, Kimberly Martin, MS, ATC, CES

ImPACT Training Workshop 2011: Presented by Mark Lovell, PhD, FACPN and Jamie Pardini, PhD

National Athletic Trainers’ Association Position Statement: Management Of Sport Related Concussion

Concussion Management for Interscholastic Athletics: Presented by Brian Rieser, PhD and James M. Callahan, MD