

## SPORTS MEDICINE

### Chesterfield County Public High Schools Student-Athlete Concussion Protocol During Extracurricular Activities

Chesterfield County Public High Schools (CCPS) desires the safe return to play for all student-athletes participating in extracurricular physical activities. The goals of this policy are as follows: (1) that coaches, school staff, volunteers, student-athletes, and their parents or guardians are aware of the short-term and long-term effects of concussions; (2) that concussed student-athletes are identified, removed from play immediately, and referred appropriately; and (3) that concussed student-athletes are returned to full play only after receiving appropriate medical care, given adequate time to heal, and are symptom-free.

#### **Definitions:**

**Concussion**- a brain injury that is caused by a blow to the head or body. It can result from contact with another player, hitting a hard surface, or being hit by a piece of equipment. A concussion can change the way your brain normally works, and symptoms can range from mild to severe since concussions are no longer formally diagnosed as mild, moderate or severe. Concussions present themselves differently for each athlete. A concussion can occur during ANY sport at practice or competition and can happen even if you do not lose consciousness.

**Signs and Symptoms of a Concussion** (may include one or several but are not limited to the following):

- Can't recall events prior to or after a hit or fall
- Appears dazed or stunned
- Forgets an instruction, confused about an assignment or position
- Moves clumsily
- Answers questions slowly
- Sensitivity to noise or light
- Nausea or vomiting
- Feeling sluggish or groggy
- Concentration problems
- Shows mood, behavior, or personality changes
- Loses consciousness (even briefly)
- Headache or "pressure" in head
- Balance problems or dizziness, double or blurry vision
- Just not "feeling right" or "feeling down"

**Extracurricular physical activity**- An athletic activity that is sponsored by a school or the school division, is not part of the school curriculum, occurs outside of the regular

school day, and exists for the purpose of involving students in practices, games, or competitions. Examples of extracurricular physical activities include physical activities of all secondary school athletic teams and intramural teams.

**Licensed Health Care Provider**- A physician, physician assistant, osteopath or athletic trainer licensed by the Virginia Board of Medicine; a neuropsychologist licensed by the Virginia Board of Medicine; a neuropsychologist licensed by the Board of Psychology; or a nurse practitioner licensed by the Virginia State Board of Nursing.

**Student-Athlete**: A high school student participating in an extracurricular physical activity with the prior written permission of the student's parent or guardian.

### **The CCPS Concussion Management Team**

- A. The CCPS Concussion Management Team shall be appointed by the Athletic Director and consist of an athletic director, athletic trainer, nurse (if applicable), a coach, a student advocate and a teacher.
- B. The Team shall develop concussion training materials for school personnel, volunteers, student-athletes, and parents of student-athletes. The Team shall also develop concussion reporting, management, and review protocols for the school division. The Team shall maintain a record of all incidents where a student-athlete has been removed from an extracurricular physical activity because he or she has been suspected of sustaining a concussion.
- C. The Team shall meet at least twice a year and shall evaluate the division's training materials, concussion reporting, management, and update protocols annually.

### **Required Concussion Training for School Personnel and Volunteers**

- A. Every coach, assistant coach, school staff member, adult volunteer, or other person serving in a coaching or advisory role over student-athletes during extracurricular physical activities shall take NFHS Test to learn and understand the signs and symptoms of sports-related concussions, strategies to reduce the risk of concussions, how to seek proper medical treatment for concussions, and the process by which a concussed student-athlete may safely return to practice or competition. The Athletic Director shall maintain a written record of the names and dates of completion for all persons completing the school's concussion training.
- B. Each school shall ensure that no person can coach or advise a student-athlete in any extracurricular physical activity who has not completed the school's concussion training within the previous twelve months.

### **Required Training for Student-Athletes and Parent/Guardian**

- A. Prior to participating in any extracurricular physical activity, each student-athlete and the student-athlete's parent or guardian shall review concussion training materials on the CCPS High School Athletics website and sign a statement acknowledging receipt of such information. The concussion training materials shall describe the short-and long-term health effects of concussions.

- B. The signed statements acknowledging the receipt and review of concussion training materials shall be valid for one calendar year and will satisfy the concussion training requirements for all student-athlete's extracurricular physical activities for a calendar year.
- C. Baseline concussion testing will be determined by each school. Schools may or may not participate in baseline testing. Please reach out to the Athletic Trainer at the student-athletes respective school to obtain further information.
  - i. If baseline testing (ex. ImPACT, Concussion Vital Signs) is performed prior to the start of the season, return to play will be based off post-concussion testing scores returning to baseline or normative values as part of the assessment by the health care provider.
  - ii. If baseline testing is not available or was not completed a SCAT5 will be performed. Return to play status will be based off return to normative values as part of the assessment by the healthcare provider.

### **Removal from Extracurricular Physical Activities**

- A. A student-athlete, during an extracurricular physical activity, sustaining an injury from a blow to the head, face or neck, or from a blow to the body that causes a sudden jarring of the head, shall be removed from the activity immediately.
- B. If the team athletic trainer does not suspect that the student-athlete has sustained a concussion, the student-athlete may be returned to play. At times when the athletic trainer is not present, if the team coach suspects a concussion, the athlete MUST sit out to be evaluated by the athletic trainer.
- C. If, following such removal, the athletic trainer suspects that the student-athlete has sustained a concussion, the student-athlete shall be evaluated using a standardized concussion sideline assessment instrument (e.g., Sideline Concussion Assessment TOOL SCAT 5).
- D. A student-athlete who has been removed from play, evaluated using a standardized sideline assessment instrument, and is no longer suspected of having sustained a concussion, may be returned to play.
- E. However, a student-athlete who has been removed from play, evaluated using a standardized sideline assessment instrument, and is suspected of having sustained a concussion, shall not be allowed to return to play in any extracurricular physical activity until the student completes applicable steps in the return-to-play protocol. Any student-athlete with concussion symptoms lasting 48 hours will be required to see a licensed healthcare provider trained in concussion for further evaluation and treatment.
- F. The determination of whether a student-athlete removed from play is suspected of having sustained a concussion shall be the sole determination of the licensed health care provider or other properly trained individual conducting the concussion sideline assessment. Such determination is final and may not be overruled by another licensed health care provider or other properly trained individual, coach, assistant coach, school staff, or other person serving in a coaching or advisory role, the student-athlete, or the parent or guardian of the student-athlete.

- G. The coach of a student-athlete may elect not to return the student-athlete to play, even if after the concussion sideline assessment, it is determined that the student-athlete is no longer suspected of having sustained a concussion.

**Return to Learn Protocol**

- A. School personnel shall be alert to cognitive and academic issues that may be experienced by a student-athlete who has suffered a concussion or other head injury, including (i) difficulty with concentration, organization, and long-term and short-term memory; (ii) sensitivity to bright lights and sounds; and (iii) short-term problems with speech and language, reasoning, planning, and problem solving.
- B. School personnel shall accommodate the gradual return to full participation in academic activities by a student-athlete who has suffered a concussion or other head injury as appropriate, based on the recommendation of the student-athlete’s licensed health care provider as to the appropriate amount of time that such student-athlete needs to be away from the classroom.
- C. Parent/Guardians will be notified of all return to learn information. They will understand the student-athlete must have a full return to academics (if modifications were needed due to symptoms) before the return to play protocol begins.

**Graduated return to learn guidelines as follows:**

<i>Stage</i>	<i>Aim</i>	<i>Activity</i>	<i>Goal of each step</i>
1	<i>Daily activities at home that do not give the child symptoms</i>	<i>Typical activities of the child during the day as long as they do not increase symptoms (e.g., reading, texting, screen time). Start with 5-15 min at a time and gradually build up</i>	<i>Gradual return to typical activities</i>
2	<i>School activities</i>	<i>Homework, reading or other cognitive activities outside of the classroom</i>	<i>Increase tolerance to cognitive work</i>
3	<i>Return to school part-time</i>	<i>Gradual introduction of schoolwork. May need to start a partial school day or with increased breaks during the day</i>	<i>Increase academic activities</i>
4	<i>Return to school full time</i>	<i>Gradually progress school activities until a full day can be tolerated</i>	<i>Return to full academic activities and catch up on missed work</i>

(Davis et al., 2017)

## **Return to Play Protocol**

- A. A student-athlete suspected of having sustained a concussion, as the result of a standardized sideline assessment or when no such assessment is available, shall not be allowed to return to any extracurricular physical activity on that day. The length of progressive return to sports participation program shall be determined by the student-athlete's return to sports participation program and the licensed health care provider. The return to play should last a minimum of 6 calendar days. A student's progressive return to sports participation program, in turn, may not commence unless the student has exhibited no concussive symptoms for a period of at least 24 consecutive hours with no medication or clearance documentation has been obtained from a licensed healthcare provider trained in concussion stating that the athlete has been cleared to begin the return to learn and return to play protocols.
- i. Recent evidence suggests that some light aerobic exercise aids in concussion recovery. The student-athlete may be cleared to do light aerobic activity only at the discretion of the student-athlete's treating licensed healthcare provider that has been trained in concussion. This activity must be done under the supervision of the Athletic Trainer and the Athletic Trainer will work closely with the student-athlete's treating licensed healthcare provider to adhere to their recommended guidelines on type and intensity of activity and when to stop activity.
  - ii. A student-athlete may only be cleared to begin the return to play protocol while taking pharmacological agents if specifically cleared by their treating licensed healthcare provide neurologist to do so with that specific medication only
- B. Under no circumstances may a student-athlete be permitted to return to play in any extracurricular physical activity unless the written return to play medical release is received by athletic trainer.
- C. The athletic trainer may elect not to allow a student-athlete to return to extracurricular physical activities, even after the production of a written medical release from the student-athlete's licensed health care provider.
- D. If there is neither a team physician nor an athletic trainer available, then the team coach, for such reasons, may elect not to allow a student-athlete to return to physical activities, even after the production of a written medical release from the student-athlete's licensed health care provider. If such election not to allow the student-athlete to return to play is made, that decision and the observations and concerns shall be communicated to the student-athlete's parent or guardian within one day of the decision not to allow such student-athlete to return to extracurricular physical activities.

**Graduated return to play guidelines is as follows:**

*“NOTE: An initial period of 24–48 hours of both relative physical rest and cognitive rest is recommended before beginning the RTS progression. There should be at least 24 hours (or longer) for each step of the progression. If any symptoms worsen during exercise, the athlete should go back to the previous step. Resistance training should be added only in the later stages*

<b>Stage</b>	<b>Aim</b>	<b>Activity</b>	<b>Goal of each step</b>
1	<i>Symptom-limited activity</i>	<i>Daily activities that do not provoke symptoms</i>	<i>Gradual reintroduction of work/school activities</i>
2	<i>Light aerobic exercise</i>	<i>Walking or stationary cycling at a slow to medium pace. No resistance training</i>	<i>Increase heart rate</i>
3	<i>Sport-specific exercise</i>	<i>Running or skating drills. No head impact activities</i>	<i>Add movement</i>
4	<i>Non-contact training drills</i>	<i>Harder training drills, eg. Passing drills. May start progressive resistance training</i>	<i>Exercise, coordination and increased thinking</i>
5	<i>Full contact practice</i>	<i>Following medical clearance, participate in normal training activities</i>	<i>Restore confidence and assess functional skills by coaching staff</i>
6	<i>Normal Game play</i>		

*(stage 3 or 4 at the earliest). If symptoms are persistent (e.g., more than 10–14 days in adults or more than 1 month in children), the athlete should be referred to a healthcare professional who is an expert in the management of concussion” (Davis et al., 2017).*

**Helmet Replacement and Reconditioning**

- A. All Helmets used in school physical activities must conform to the National Operations Committee on Standards for Athletic Equipment (NOCSAE) and certified as conforming by the manufacturer at the time of purchase.
- B. Reconditioned helmets that have been purchased must be recertified as conforming to the NOCSAE by the re-conditioner.
- C. Regular training on proper helmet fitting and maintenance is recommended for coaches of all sports wearing protective headgear.

## Reference

Davis, G. A., Ellenbogen, R. G., Bailes, J., Cantu, R. C., Johnston, K. M., Manley, G. T., ... McCrory, P. (2017). The berlin international consensus meeting on concussion in sport. *Neurosurgery*, 82(2), 232–236. <https://doi.org/10.1093/neuros/nyx344>