Guidelines for Concussion Management in Alexandria City Public Schools

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Primary resource for this protocol document:
Guidelines for Concussion Management in the School Setting. June 2012. The University of the State of New York THE STATE EDUCATION DEPARTMENT Office of Student Support Services, Albany, New York 12234
http://www.p12.nysed.gov/sss/schoolhealth/schoolhealthservices/ConcussionManageGuidelines.pdf

Acknowledgements

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Foreword

The purpose of this document is to provide Alexandria City Public Schools (ACPS) personnel, parents/guardians, students, and private health care providers with information on concussion management in the school setting. This guideline document will assist in identifying a student with a potential concussion and ensure that a student who has been diagnosed with a concussion receives the appropriate care and attention at school to aid in his/her recovery.

ACPS promotes an environment where reporting signs and symptoms of a concussion are required and important. Students who have a suspected concussion should be seen by their licensed health care provider for diagnosis who then may choose to refer the student to a specialist as needed. If the student does not have a primary medical provider, ACPS school nurses or athletic trainers may assist families in finding appropriate medical evaluation by providing information on local clinics and/or providers along with information on public health insurance. Any evaluation and clearance authorizing a student to return to athletic or regular activities must be performed, written, and signed by a licensed health care provider. Such written clearance must be sent to the school for review by the school nurse and is to be kept in the student's cumulative health record.

Definitions

Traumatic Brain Injury is a disruption in the normal function of the brain that can be caused by a bump, blow, or jolt to the head, or penetrating head injury.

Concussion is a traumatic brain injury that is characterized by an onset of impairment of cognitive and/or physical functioning. It is caused by a blow to the head, face or neck, or a blow to the body that causes a sudden jarring of the head (I.e. a helmet to the head, being knocked to the ground). A concussion can occur with or without a loss of consciousness and proper management is essential to the immediate safety and long-term future of the injured individual. A concussion can be difficult to diagnose and failing to recognize the signs and symptoms in a timely fashion can have dire consequences. A concussion is defined by the 4th International Conference on Concussion in Sports (2012) as a complex pathophysiological process affecting the brain and induced by biomechanical forces. Several common features that incorporate clinical, pathologic, and biomechanical injury constructs that may be utilized in defining the nature of a concussive head injury include:

- Concussion 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.
- Concussion typically results in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously. However, in some cases, symptoms and signs may evolve over a number of minutes, hours, or days.
- Concussion may result in neuropathological changes, but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury with no abnormality seen on standard structural neuroimaging studies.
- Concussion results in a graded set of clinical symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course. It is important to note, however, that in some cases symptoms may be prolonged.

Appropriate licensed health care provider means a physician (M.D. or D.O.), physician assistant, or athletic trainer 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.

Cognitive rest means limiting cognitive exertion and careful management of neurometabolic demands on the brain during recovery.

Return-to-learn means instructional modifications that support a controlled, progressive increase in cognitive activities while the student recovers from a brain injury (i.e., concussion) allowing the student to participate in classroom activities and learn without worsening symptoms and potentially delaying healing.

Return-to-play means participate in a non-medically supervised practice or athletic competition.

Non-interscholastic youth sports program means a program organized for recreational athletic competition or recreational athletic instruction program organized for youth, which is not affiliated with a public or nonpublic school.

Concussion Overview

Concussions are brain injuries that occur as the result of a fall, motor vehicle accident, or any other activity that results in an impact to the head or body. The Brain Injury Association of Virginia reports that, "Concussions are caused by a bump, blow, or jolt to the head. A concussion can also occur from a blow to the body that causes the head to move rapidly back and forth or twisting rapidly inside the skull. They can range from mild to severe and can disrupt the way the brain normally works. Even a "ding" or a bump on the head can be serious and result in a long-term or lifelong disability" (http://www.biav.net/sports-concussion.htm). According to the Centers for Disease Control and Prevention (CDC), *Morbidity and Mortality Weekly Report (MMWR)* [October 7, 2011/ 60(39); 1337-1342]: An estimated 2.6 million people under the age of nineteen sustain a head injury annually.

The symptoms of a concussion result from a temporary change in the brain's function. In most cases, the symptoms of a concussion generally resolve over a short period of time. However, in some cases, symptoms can last for weeks or longer. In a small number of cases, or in cases of re-injury during the recovery phase, permanent brain injury is possible. Children and adolescents are more susceptible to concussions and take longer than adults to fully recover. Therefore, it is imperative that any student who is suspected of having sustained a concussion be immediately removed from athletic activity (e.g., recess, PE class, sports) and remain out of athletic activities until evaluated **and** cleared to return to athletic/regular activity by a licensed health care provider.

Concussion Protocol

ACPS commits to the following statements as part of the division concussion protocol:

1. ACPS will implement strategies that reduce the risk of head injuries in the school setting and during school sponsored events.

2. ACPS will implement a procedure and treatment plan developed to be utilized by division staff who may respond to a person with a head injury.

3. ACPS will ensure that certified athletic trainers and coaches have completed a concussion training course. School nurses, physical education teachers, and other appropriate staff will have attended a concussion training course. Additionally, the protocol addresses the education needs of students and parents/guardians, as needed.

4. ACPS will establish a procedure for a coordinated communication plan among appropriate staff to ensure that private provider orders for post-concussion management are implemented and followed.

5. ACPS will develop and implement a procedure for annual review of the concussion management policy.

Prevention and Safety

Protecting students from head injuries is one of the most important ways to prevent a concussion. Although the risk of a concussion may always be present with certain types of activities, in order to minimize the risk, schools should ensure that (where appropriate) education, proper equipment, and supervision to minimize the risk is provided to ACPS staff, students, and parents/guardians. Instruction should include signs and symptoms of concussions, how such injuries occur, how to respond when a concussion occurs, and possible long term effects resulting from such injury. It is imperative that students know the symptoms of a concussion and inform appropriate personnel, even if they believe they have sustained the mildest of concussions. This prevention and safety information should be reviewed periodically with students throughout each season. Emphasis must be placed on both acquiring a medical evaluation, should such an injury occur, to prevent persisting symptoms of a concussion and following the guidelines for return to school and activities to ensure proper recovery. Providing supporting written material is advisable. It is extremely important that all students be made aware of the importance of reporting any symptoms of a concussion to their parent/guardian and/or appropriate school staff. ACPS staff members must follow division protocols and procedures for any student reporting signs and symptoms of injury or illness.

Activities that present a higher than average risk for concussions include, but are not limited to: interscholastic athletics, extramural activities, physical education classes, marching band, and recess. ACPS will evaluate the physical design of facilities and their emergency safety plans to identify potential risks for falls or other injuries regularly and on an as needed basis. Recess should include adult supervision with all playground equipment in good repair and play surfaces composed of approved child safety materials.

Physical education programs should include plans that emphasize safety practices. Lessons on the need for safety equipment should be taught along with the correct use of such equipment. In addition, rules of play should be reviewed prior to taking part in the physical activity and enforced throughout the duration thereof.

The Director of Sports Activities (DSA) will ensure that all interscholastic athletic competition rules are followed, appropriate safety equipment is used, and rules of sportsmanship are enforced. The DSA should instruct and encourage PE teachers, coaches, and students from initiating contact to another player with their head or to the head of another player. Players should be proactively instructed on sport-specific safe body alignment and encouraged to be aware of what is going on around them. These practices will reduce the number of unexpected body hits that may result in a concussion and/or neck injury. In addition, proper instruction should include the rules of the sport, defining unsportsmanlike conduct, and enforcing penalties for deliberate violations.

Concussion Identification

Any student who is observed to, or is suspected of, suffering a significant blow to the head, has fallen from any height, or has collided hard with another person or object, may have sustained a concussion. Symptoms of a concussion may appear immediately, may become evident in a few hours, or may evolve and worsen over a few days. Concussions may occur at places other than school. Therefore, any ACPS staff member who observes a student displaying signs and/or symptoms of a concussion, or learns of a head injury from the student, should have the student accompanied to the school nurse or athletic trainer. If the school nurse is unavailable, the school should contact the parent/guardian. Any student suspected of having a concussion either based on the disclosure of a head injury, observed or reported symptoms, or by sustaining a significant blow to the head or body must be removed from athletic activity and/or physical activities (e.g., PE class, recess), and observed until an evaluation can be completed by a licensed health care provider. Symptoms of a concussion include, but are not necessarily limited to:

- Amnesia (e.g., decreased or absent memory of events prior to or immediately after the injury, or difficulty retaining new information)
- Confusion or appearing dazed
- Headache or head pressure
- Loss of consciousness
- Balance difficulty or dizziness, or clumsy movements
- Double or blurry vision
- Sensitivity to light and/or sound
- Nausea, vomiting, and/or loss of appetite
- Irritability, sadness or other changes in personality
- Feeling sluggish, foggy, groggy, or lightheaded
- Concentration or focusing problems
- Slowed reaction times, drowsiness
- Fatigue and/or sleep issues (e.g., sleeping more or less than usual)

Students who develop any of the following signs, or if the above listed symptoms worsen, must be seen and evaluated immediately at the nearest hospital emergency room:

- Headaches that worsen
- Seizures
- Looks drowsy and/or cannot be awakened
- Repeated vomiting
- Slurred speech
- Unable to recognize people or places
- Weakness or numbing in arms or legs, facial drooping
- Unsteady gait
- Dilated or pinpoint pupils, or change in pupil size of one eye
- Significant irritability
- Any loss of consciousness
- Suspicion of skull fracture: blood draining from ear or clear fluid from nose

Neurocognitive computerized tests and sideline assessments may assist division staff in determining the severity of a student's symptoms and guiding treatment plans (e.g., the need for academic accommodations). **They are not a replacement for a medical evaluation to diagnose a concussion**. All students with a suspected concussion are to be seen as soon as possible by a licensed health care provider. Results from assessment tools or tests completed at school should be given to medical providers to aid in the diagnosis and treatment of students. Students removed from athletic activities at school for a suspected concussion must be evaluated by, and receive written and signed authorization from, a licensed health care provider in order to return to *athletic activities* in school.

Diagnosis

It cannot be emphasized enough that any student suspected of having a concussion – either based on the disclosure of a head injury, observed or reported symptoms, or by sustaining a significant blow to the head or body – **must** be removed from athletic activity and/or physical activities (e.g., PE class, recess), and observed until an evaluation can be completed by a licensed health care provider. A student diagnosed with a concussion is not to be returned to athletic activities until at least 24 hours have passed without symptoms and the student has been assessed and cleared by a licensed health care provider to begin a graduated return to activities. Students removed from athletic activities at school for a suspected concussion must be evaluated by, and receive written and signed authorization from, a licensed health care provider in order to return to *athletic activities* in school.

Evaluation by a licensed health care provider of a student suspected of having a concussion should include a thorough health history and a detailed account of the injury. The Centers for Disease Control and Prevention (CDC) recommends that physicians, nurse practitioners, and physician assistants use the Acute Concussion Evaluation Form (ACE) to conduct an initial evaluation (https://www.cdc.gov/headsup/pdfs/providers/ace-a.pdf) and the Acute Concussion Evaluation Care Plan (https://www.cdc.gov/headsup/pdfs/providers/ace_care_plan_school_version_a.pdf) to communicate plan of care with schools.

The CDC recommends evaluation of three areas:

- Characteristics of the injury
- Type and severity of cognitive and physical symptoms
- Risk factors that may prolong recovery

Injury Characteristics

The student and/or the parent/guardian or school staff member who observed the injury should be asked about the following as part of an initial evaluation:

- Description of the injury
- Cause of the injury
- Student's memory before and after the injury
- Physical pains and/or soreness directly after injury
- If any loss of consciousness occurred

Symptoms

Students should be assessed for symptoms of a concussion including, but not limited to, those listed in the Identification Section on page 9.

Risk Factors to Recovery

According to the CDC's *Heads Up, Facts for Physicians About Mild Traumatic Brain Injury (MTBI),* students with these conditions are at a higher risk for prolonged recovery from a concussion:

- History of concussion, especially if currently recovering from an earlier concussion
- Personal and/or family history of migraine headaches
- History of learning disabilities or developmental disorders
- History of depression, anxiety, or mood disorders

Students whose symptoms worsen or generally show no reduction after 7-14 days, or sooner depending on symptom severity, should be considered for referral to a neuropsychologist, neurologist, physiatrist, or other medical specialist in traumatic brain injury.
(Source: http://www.concussiontreatment.com/images/CDC_Facts_for_Physicians_booklet.pdf)

Post-Concussion Management

Students who have been diagnosed with a concussion require both physical and cognitive rest. Delay in instituting licensed health care provider orders for such rest may prolong recovery from a concussion. The licensed health care provider's orders for avoidance of cognitive and physical activity and graduated return to activity should be followed and monitored both at home and at school. School staff should consult with the school nurse or athletic trainer if further discussion and/or clarification are needed regarding a private medical provider's orders or in the absence of private medical provider orders. Additionally, children and adolescents are at increased risk of protracted recovery and more severe injuries, even death, if they sustain another concussion before fully recovering from the first concussion. Therefore, it is imperative that a student is fully recovered before resuming activities that may result in another concussion. Best practice warrants that, whenever there is a question of safety, a medical professional should err on the side of caution and hold the student out for a game, the remainder of the season, or even a full year, if warranted.

Cognitive Rest – Protocol for Return to Learn

A student recovering from a brain injury shall gradually increase cognitive activities progressing through *some or all* of the following phases. Some students may need total rest with a gradual return to school while others will be able to continue doing academic work with minimal instructional modifications. The decision to progress from one phase to another should reflect the absence of any relevant signs or symptoms and should be based on the recommendation of the student's appropriate licensed health care provider in collaboration with school staff, including teachers, school counselors, school administrators, psychologists, and nurses as determined by the ACPS concussion policy.

a. Home: Rest

Phase 1: Cognitive and physical rest may include:

- minimal cognitive activities – limit reading, computer use, texting, television, or video games;
- no homework;
- no driving; and
- minimal physical activity.

Phase 2: Light cognitive mental activity may include:

- up to 30 minutes of sustained cognitive exertion;
- no prolonged concentration;
- no driving; and
- limited physical activity.

Student will progress to part-time school attendance when able to tolerate a minimum of 30 minutes of sustained cognitive exertion without exacerbation of symptoms or causing the re-emergence of previously resolved symptoms.

b. School: Part-time

Phase 3: Maximum instructional modifications including, but not limited to:

- shortened days with built-in breaks;
- modify environment (e.g., limiting time in hallway, identifying quiet and/or dark spaces);
- establish learning priorities;
- no standardized or classroom testing;
- extra time, extra assistance, and/or modified assignments;
- rest and recovery once out of school; and
- elimination or reduction of homework.

Student will progress to the moderate instructional modification phase when able to tolerate part-time return with moderate instructional modifications without exacerbation of symptoms or re-emergence of previously resolved symptoms.

Phase 4: Moderate instructional modifications including, but not limited to:

- set priorities for learning;
- limit homework;

- alternative grading strategies;
- built-in breaks;
- no standardized testing, modified and/or limited classroom testing; and
- reduction of extra time, assistance, and/or modification of assignments as needed.

Student will progress to the minimal instructional modification phase when able to tolerate full-time school attendance without exacerbation of existing symptoms or re-emergence of previously resolved symptoms.

c. School: Full-time

Phase 5: Minimal instructional modification - instructional strategies may include, but are not limited to:

- built-in breaks;
- no standardized testing, limited formative and summative testing;
- reduction of extra time, assistance, *and* modification of assignments; and
- continuation of instructional modification and supports in academically challenging subjects that require cognitive overexertion and stress.

Student will progress to non-modified school participation when able to handle sustained cognitive exertion without exacerbation of symptoms or re-emergence of previously resolved symptoms.

Phase 6: Attends all classes; maintains full academic load/homework; requires no instructional modifications.

2. Progression through the above phases shall be governed by the presence or resolution of symptoms resulting from a concussion experienced by the student including, but not limited to:

a. difficulty with attention, concentration, organization, long-term and short-term memory, reasoning, planning, and problem solving;

b. fatigue, drowsiness, difficulties handling a stimulating school environment (i.e., sensitivity to light and sound);

c. inappropriate or impulsive behavior during class, greater irritability, less able to cope with stress, more emotional than usual; and

d. physical symptoms (i.e., headache, nausea, dizziness).

3. Progression through gradually increasing cognitive demands should adhere to the following guidelines:

a. increase the amount of time in school;

b. increase the nature and amount of work, the length of time spent on the work, or the type or difficulty of work (change only one of these variables at a time);

c. if symptoms do not worsen, demands may continue to be gradually increased;

d. if symptoms do worsen, the activity should be discontinued for at least 20 minutes and the student allowed to rest:

1) if the symptoms are relieved with rest, the student may reattempt the activity at or below the level that produced symptoms; and

2) if the symptoms are not relieved with rest, the student should discontinue the current activity for the day and reattempt when symptoms have lessened or resolved (such as the next day).

4. If symptoms persist or fail to improve over time, additional in-school support may be required with consideration for further evaluation. If the student is three to four weeks post injury without significant evidence of improvement, a 504 plan should be considered (see page 21). Section 504 is part of the Rehabilitation Act of 1973 and is designed to protect the rights of individuals with disabilities in programs and activities that receive federal financial assistance from the U.S. Department of Education. Section 504 requires a school district to provide a "free appropriate public education" (FAPE) to each qualified student with a disability who is in the school district's jurisdiction, regardless of the nature or severity of the disability. Under Section 504, FAPE consists of the provision of regular or special education and related aids and services designed to meet the student's individual educational needs as adequately as the needs of nondisabled students are met.

More information is available on Section 504 law at
http://www2.ed.gov/about/offices/list/ocr/index.html

A Q&A on Section 504 including information on addressing temporary impairments such as concussions is available at
http://www2.ed.gov/about/offices/list/ocr/504faq.html

Parents/guardians, teachers, and school staff should watch for signs of concussion symptoms such as fatigue, irritability, headaches, blurred vision, or dizziness which reappear or worsen with any type of mental activity or stimulation. If any of these signs and symptoms occur or worsen, the student should cease the activity and be allowed a brief rest break. Return of symptoms should guide whether the student should participate in an activity. Initially a student with a concussion may only be able to attend school for a few hours per day and/or need rest periods during the day. Students may exhibit increased difficulties with focusing, memory, learning new information, and/or an increase in irritability or impulsivity. Schools should have a plan in place related to transitioning students back to school and for making accommodations for missed tests and assignments. If the student's symptoms last longer than 7-14 days without improvement, a licensed health care provider should consider referring the student for an evaluation by a medical specialist in traumatic brain injury. In the case or prolonged recovery, academic accommodations such as modification of exams, reduced homework load, and extended time to complete assignments may be necessary.

5. A student shall progress to a stage where he or she no longer requires instructional modifications or other support before being cleared to return to full athletic participation (return-to-play).

The American Academy of Pediatrics (AAP) Return to Learn Following a Concussion Guidelines (October 2013), and the American Medical Society for Sports Medicine (AMSSM) Position Statement (2013), are available online to assist health care providers, students, their families, and school divisions, as needed.

Physical Rest

Physical rest includes getting adequate sleep, taking frequent rest periods or naps, and avoiding or reducing physical activity that requires exertion. Some activities that should be avoided include, but are not limited to:

- Activities that result in contact and collision and are high risk for re-injury
- High speed and/or intense exercise and/or sports
- Any activity that results in a significant increase in symptoms or head pressure

(e.g., straining)

Students may feel sad or angry about having to limit activities or having difficulties keeping up in school. Students should be reassured that the situation is temporary, that the goal is to help the student get back to full activity as soon as it is safe, and that they should avoid activities which will delay their recovery. Students should be informed that the concussion will resolve more quickly when they follow their medical provider's orders as supported by various studies. Students will need encouragement and support at home and school until symptoms fully resolve.

Return to School Activities~~/ Protocol for return to play~~Return-to-sport

1. No ~~member of a school athletic team~~student shall participate in any PE or athletic event~~/ or~~ practice the same day he ~~/~~or she is injured and:
   a. exhibits signs, symptoms, or behaviors attributable to a concussion; or
   b. has been diagnosed with a concussion.
2. No ~~member of a school athletic team~~student shall ~~return to~~ participate in ~~an~~ contact activities ~~athletic event or training~~ on the days after he or ~~/~~she experiences a concussion unless all of the following conditions have been met:
   a. the student attends all classes, maintains full academic load/homework, and requires no instructional modifications;
   b. the student no longer exhibits signs, symptoms, or behaviors consistent with a concussion at rest or with exertion;
   c. the student is asymptomatic during or following periods of supervised exercise that is gradually intensifying; and
   d. the student receives a written medical release from an appropriate licensed health care provider.

Once a student is diagnosed with a concussion ~~has been symptom free at rest for at least 24 hours~~, a licensed health care provider may choose when to clear the student to begin a graduated return to activity~~ties~~. If a school has concerns or questions about the licensed heath care provider's instructions, the school nurse or athletic trainer should contact that provider to discuss and clarify. Additionally, the school nurse and/or athletic trainer have the final authority to clear students to participate in or return to extra-class physical activities.

Students should be monitored for any return or increase of signs and symptoms of concussion. School staff members should report any concerning observations ~~observed return of signs and symptoms~~ to the school nurse or ~~,~~certified athletic trainer. In the absence of the school nurse or athletic trainer, any concerns should be reported to the student's school counselor or administrator.~~, or administrator in the absence of the school nurse or athletic trainer.~~ ~~A~~ When the treating licensed health care provider has not supplied the student with a specific gradual return-to-activity progression to follow, the school should follow an approved step-wise progression such as the one below. ~~student should only move to the next level of activity if he/she remains symptom free at the current level. Return to activity should occur with the introduction of one new activity each 24 hours. If any post -concussion symptoms return, the student should drop back to the previous level of activity, then re-attempt the new activity after another 24 hours have passed. A more gradual progression should be considered based on individual circumstances and a private medical provider's or other specialist's orders and recommendations.~~

The following is a recommended sample of a graduated return-to-sport ~~return to physical activity~~ protocol based on the Consensus Statement on Concussion in Sport: The 5th~~4th~~ International Conference on Concussion in Sport held in Berlin~~Zurich~~, October 2016~~November 2012~~ (McCrory P, et al. *Br J Sports Med* *2017~~2013~~; 0:1-10.~~47:250-258~~ doi: 10.1136/bjsports-2017-097699~~2013-092313, p. 4~~)*

Stage	**~~Rehabilitation stage~~Aim**	**~~Functional exercise at each stage of rehabilitation~~ Activity**	**~~Objective of each stage~~Goal of each step**
1.	~~1.No activity~~Symptom-limited activity	Daily activities that do not provoke symptoms~~Symptom limited physical and cognitive rest~~	~~Recovery~~Gradual reintroduction of work/school activities
2.	~~2.~~Light aerobic exercise	Walking~~, swimming~~ or stationary cycling at slow to medium pace.~~keeping intensity 70% maximum permitted heart rate;~~ No resistance training	Increase heart rate
3.	~~3.~~Sport-specific exercise	Running or skating drills. ~~Skating drills in ice hockey, running drills in soccer.~~ No head impact activities	Add movement
4.	~~4.~~ Non-contact training drills	~~Progression to more complex~~Harder training drills, e~~.~~g~~.~~, passing drills~~. in football and ice hockey;~~ M~~m~~ay start progressive resistance training	Exercise, coordination and increased thinking~~cognitive load~~
5.	~~5.~~Full ~~-~~contact practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6.	~~6.~~Return to ~~play~~sport	Normal game play	

A period of 24 hours should pass between each step before progressing to the next stage, therefore taking about one week before return to full activity. If any post-concussion symptoms return or worsen during exercise, the student should drop back to the previous level of activity and wait 24 hours before attempting the next stage again.. A more gradual progression should be considered based on individual circumstances and the treating licensed health care provider's orders or recommendations.

Guidelines for the Concussion Management Team

Concussion management requires a coordinated, collective effort among school personnel along with parent(s)/guardian(s) to monitor an individual student's progress. They should advocate for academic and physical accommodations as appropriate to reduce delays in a student's ability to return to full activities. A school concussion management team can be a useful strategy to achieve these goals. ACPS will form a division Concussion Management Team (CMT) to oversee and implement the school division's concussion guidelines and protocols. This team shall include, but is not limited to: school administrator, athletic director, licensed health care provider(s) (including school nurse and athletic trainer), a coach, a parent/guardian, a student, and

other persons the Superintendent determines will assist the CMT.

In collaboration with the licensed health care provider and the school staff, the student and the student's family play a substantial role in assisting the student to recover. The following section outlines the important role every member of the team contributes to ensuring students are healthy, safe, and achieving their maximum potential. The primary focus of all members should be the student's health and recovery.

Members of the school team may include, but are not necessarily limited to:

- Student
- Parents/Guardians
- School Administration
- School Support Team Members
- Licensed Health Care Provider and other Specialists
- School Nurse
- Athletic Director
- Certified Athletic Trainer
- Physical Education Teacher/Coaches/Marching Band Directors
- Teachers

Student

Students should be encouraged to communicate any symptoms promptly to school staff and/or parents/guardians as a concussion is primarily diagnosed by reported and/or observed signs and symptoms. It is the information provided by the student about their symptoms and the cognitive and physical triggers that worsen their symptoms that guides the other members of the team in transitioning the student back to activities. The amount and type of feedback reported by the student will be dependent on age and other factors. Therefore it is recommended that students:

- Be educated about the prevention of head injuries.
- Be familiar with signs and symptoms that must be reported to the coach, certified athletic trainer, school nurse, parent/guardian, or other staff.
- Be made aware of the risk of concussion and be encouraged to tell their coach, parent/guardian, certified athletic trainer, school nurse or other staff members about injuries and symptoms they are experiencing.
- Be educated about the importance of being fully recovered before returning to normal activities to avoid a risk of severe injury, permanent disability, and even death.
- Follow instructions from their licensed health care provider.
- Be encouraged to ask for help and to inform teachers of difficulties they experience in class and when completing assignments.
- Encourage classmates and teammates to report injuries.
- Encourage students to confidentially report symptoms exhibited by classmates or teammates to school nurse, athletic trainer, coach or other responsible adult.
- Promote an environment where reporting signs and symptoms of a concussion is considered vital.
- Be provided resources that are age appropriate such as:
    - The CDC's Heads Up: Concussion in Youth Sports, which can be a valuable tool for athletes and non-athletes alike (http://www.cdc.gov/headsup/youthsports/index.html)
    - Kid-friendly YouTube videos, such as Dr. Mike Evan's "Concussion 101:" https://www.youtube.com/watch?v=zCCD52Pty4A

Parent/Guardian

Parent/guardians play an integral role in assisting their child and are the primary advocate for their child. When their child is diagnosed with a concussion, it is important that the parent/guardian communicates with both the licensed health care provider and the school. Understandably, this is a stressful time for the parent/guardian as they are concerned about their child's well-being. Therefore, it is recommended that parents/guardians:

- Be familiar with the signs and symptoms of concussions. This may be accomplished by reading pamphlets, web-based resources, and/or attending meetings prior to their child's involvement in interscholastic athletics. One free, online resource available to families is the CDC's Heads Up Toolkit for Parents https://www.cdc.gov/headsup/parents/
- Be familiar with the requirement that any student believed to have suffered a concussion must immediately be removed from athletic activities.
- Be familiar with any concussion policies or protocols implemented by the school division. These policies are in the best interest of their child.
- Be made aware that concussion symptoms that are not addressed can prolong concussion recovery.
- Provide any forms and written orders from the health care provider to the certified athletic trainer or school nurse in a timely manner.
- Monitor their child's physical and mental health as they gradually transition back to full activity after sustaining a concussion.
- Report concerns to their child's licensed health care provider and the school as necessary.
- Communicate with the certified athletic trainer or school nurse to assist in transitioning their child back to school after sustaining a concussion.
- Communicate with school staff if their child is experiencing significant fatigue or other symptoms at the end of the school day.
- Follow the licensed health care provider orders at home for return to activities.

School Administrator

The school administrator and/or designee will ensure that the division's guidelines and policies on concussion management are followed. The administrator will designate a formal concussion management team to oversee that the ACPS Concussion Protocol is enforced and guidelines are implemented. Therefore, administrators should:

- Review the district's concussion management protocol with all staff.
- Arrange for professional development sessions regarding concussion management for staff and/or parent meetings.
- Provide emergency communication devices for school activities.
- Provide guidance to staff on district wide policies and protocols for emergency care and transport of students suspected of sustaining a concussion.
- Develop plans to meet the needs of individual students diagnosed with a concussion after consultation with the health care provider, school nurse, or certified athletic trainer.
- Enforce division concussion management policies and protocols.
- Assign a staff member as a liaison to the parent/guardian. The liaison should contact the parent/guardian on a regular basis with information about their child's progress at school and discuss the addition or modification of academic accommodations, as necessary.
- Encourage parents/guardians to communicate to appointed school staff if their child is experiencing significant fatigue or other symptoms at the end of the day or during particularly challenging classes.
- Invite parents/guardians participation in determining their child's needs at school.
- Encourage parents/guardians to communicate with the private medical provider on the status of their child and their progress with return to school activity.
- Where appropriate, ask a parent/guardian to sign a Uniform Authorization to Use and Exchange Information in order for school staff to provide information regarding the student's progress to the licensed health care provider.

School Counselor

The School Counselor serves as the academic support/advisor for the student and the family. In this role, the school counselor maintains responsibility for the following activities:

- Collaborate with the school nurse and/or the athletic trainer in creating accommodations as requested by the licensed health care provider or other specialist.
- Determine need for a 504 meeting to ensure necessary academic accommodations.
- Communicate academic accommodations plan with student's teachers periodically as the plan evolves to reflect the student's recovery and progress.
- Serve as the liaison between parents and school staff for management of academic accommodations plan.
- Communicate concerns regarding academic modifications with the school nurse and licensed health care provider.

Licensed Health Care Providers/Specialists

The primary care provider is vital to all of the other Concussion Management Team members by providing orders and guidance that determine when the student is able to begin transitioning back to school and activities.

Due to the different laws that govern confidentiality of information, licensed health care providers and other specialists need to be aware that while they are governed by HIPAA (Health Insurance Portability and Accountability Act), school divisions are governed by FERPA. In order to send information to the division regarding the student, the provider will need parent/guardian consent.

Likewise, ACPS must require parent/guardian consent in order to release information to the provider. Further information on how these laws interact is available at http://www2.ed.gov/policy/gen/guid/fpco/doc/ferpa-hipaa-guidance.pdf. ACPS uses the Uniform Authorization to Use and Exchange Information form to facilitate consent for sharing of information. This form can also be found at https://www.acps.k12.va.us/cms/lib/VA01918616/Centricity/Domain/68/exchange-info-form.pdf

Therefore, the licensed health care provider should:

- Provide an academic management plan to include orders regarding restrictions, monitoring for worsening symptoms, and any additional concerns that would prompt communication to the family, the school nurse, and/or other healthcare provider specialists.
- Provide the school with a graduated return to cognitive and physical activity schedule to follow or approve use of the district's graduated return to activity schedule if deemed appropriate.
- Readily communicate with the school nurse, certified athletic trainer, or school administrator to clarify orders.
- Provide written clearance for return to full activities (in order for a student to return to athletic activities after he or she sustained a concussion during school athletic activities, an evaluation must be completed, written, and signed by a licensed health care provider).

School Nurse

The school nurse (RN) is often the person who communicates with the primary care provider, parent/guardian, and school staff. Often he or she is the school staff member who collects written documentation and orders from the licensed health care provider. The school nurse also plays an integral role in identifying a student with a potential concussion. Additionally, he/she assesses the student's progress in returning to school activities based on licensed health care provider orders or district protocol. The CDC provides many helpful resources for school nurses, including a concussion fact sheet which can be accessed at https://www.cdc.gov/headsup/pdfs/schools/tbi_factsheet_nurse-508-a.pdf. Therefore, the school nurse should:

- Assess students who have suffered a significant fall or blow to the head or body for signs and symptoms of a concussion. Observe for late onset of signs and symptoms and refer as appropriate.
- Assess the student to determine if any danger signs and symptoms of concussion warrant emergency transport to the nearest hospital emergency room per district policy.
- Refer parents/guardians of students believed to have sustained a concussion to their medical provider for evaluation.
- Provide parents/guardians with oral and/or written instructions on observing the student for concussive complications that warrant immediate emergency care. School nurses are encouraged to use the CDC's Concussion Signs and Symptoms Checklist when communicating with parents/guardians. These may be accessed at https://www.cdc.gov/headsup/pdfs/schools/tbi_schools_checklist_508-a.pdf (English) and https://www.cdc.gov/headsup/pdfs/schools/tbi_checklist_spanish-a.pdf (Spanish).
- Assist in the implementation of the licensed health care provider's or other specialist's requests for accommodations.
- Use the licensed health care provider's or other specialist's orders to develop a care plan for staff to follow.
- Monitor and assess the student's return to school activities, assessing the student's progress and communicating with the primary care provider or other specialist, certified athletic trainer, parent/guardian, and appropriate district staff when necessary.
- Collaborate with the school counselor and/or the athletic trainer in creating accommodations as requested by the private medical provider or other specialist if it is determined that a 504 plan is necessary.
- Review a private medical provider's or other specialist's written statement to clear a student to return to activities. School nurses are encouraged to use the CDC Acute Concussion Evaluation Care Plan to develop return to school plans in collaboration with health care providers. This plan can be accessed at https://www.cdc.gov/headsup/pdfs/providers/ace_care_plan_school_version_a.pdf.
- Educate students and staff annually in concussion management and prevention.

Athletic Director

The Athletic Director is in charge of the interscholastic athletic program. The Athletic Director must be aware of division policies regarding concussion management. Concussion management in extracurricular activities is guided by ACPS School Board Policy JJAC (https://www.acps.k12.va.us/cms/lib/VA01918616/Centricity/Shared/documents/school-board-policies/jjac.pdf). The Athletic Director serves as the liaison between district staff and coaches. Therefore, the Athletic Director should:

- Ensure that pre-season consent forms include information about the ACPS Concussion Policy and protocols for concussion management.
- Offer educational programs to parents/guardians and students that educate them about concussions in compliance with division policy and the Code of Virginia.
- Inform the school nurse, certified athletic trainer, or administrator of any student who is suspected of having a concussion.
- Ensure that any student identified as potentially having a concussion is not permitted to participate in any athletic activities until written clearance is received from the student's licensed health care provider as mandated by Virginia laws.
- Ensure that game officials, coaches, PE teachers, or parent/guardian are not permitted to determine whether a student with a suspected head injury can continue to play.
- Educate coaches on the school division's policies on concussions and care of injured students during interscholastic athletics including when to arrange for emergency medical transport.
- Support staff implementation of graduated return to athletics protocol.
- Enforce division policies on concussions including training requirements for coaches and certified athletic trainers in accordance with School Board policy JJAC.

Certified Athletic Trainer

A certified athletic trainer can identify a student with a potential concussion. In accordance with the ACPS Concussion Management Policy, the certified athletic trainer can also evaluate the student diagnosed with a concussion in his/her progress in return to athletic activities based on private medical provider orders and/or athletic department protocol. They also play an integral role in ensuring the student receives appropriate post-concussion care. ~~The ACPS Concussion Management Guidelines for Extracurricular Athletics can be found in Appendix A.~~ Certified athletic trainers should:

- Oversee students taking baseline ~~validated standardized~~ computerized tests which help evaluate individual cognitive function as permitted by division guidelines ~~and if credentialed and trained in their use~~.
- Evaluate students who may have suffered a significant fall or blow to the head or body for signs and symptoms of a concussion when present at athletic events. Observe for late onset of signs and symptoms and refer as appropriate.
- Evaluate the student to determine if any danger signs and symptoms of concussion warrant emergency transport to the nearest hospital emergency room per district policy.
- Refer students believed to have sustained a concussion to a medical provider for evaluation when initial period of physical and/or cognitive rest is not showing signs of improvement.
- Provide parents/guardians with oral and/or written instructions on observing the student for concussive complications that warrant immediate emergency care.
- Assist in implementation of the private medical provider's or other specialists' requests for accommodations.
- Monitor the student's return to school activities, evaluate the student's progress with each step, and communicate with the private medical provider or other specialist, school nurse, parent/guardian, and appropriate division staff.
- Provide and/or review a private licensed health care provider's written statement to clear a student for return to activities.
- Perform post-concussion evaluations, ~~observations or~~ oversee students taking ~~validated~~ standardized computerized tests ~~if credentialed or trained in their use~~, and provide the results to the parents or private medical provider to aid him/her in determining the student's status.
- ~~Educate~~ Assist with education of students, parents, and staff in concussion management and prevention.

Physical Education Teachers/Coaches/Marching Band Directors

Concussions often occur during athletic activities and marching band activities. Coaches/Band Directors are typically the only division staff at all team sports, interscholastic athletic practices, marching band practices/performances, and competitions. It is essential that coaches, physical education (PE) teachers, and band directors are familiar with possible causes of concussions along with the signs and symptoms. Coaches, ~~physical education~~PE teachers, and band directors should always put the safety of the student first. Therefore, PE teachers, band directors, and coaches should:

- Remove any student who has taken a significant blow to head or body, or presents with signs and symptoms of a head injury immediately from play as mandated by Virginia laws.
- Contact the school nurse or certified athletic trainer (if available) for assistance with any student injury.
- Send any student exhibiting danger signs and symptoms possibly indicating a more severe injury (e.g., brain bleed~~--) (~~see page 9) to the nearest hospital emergency room via emergency medical services (EMS) as per protocol.
- Inform the parent/guardian of the need for evaluation by a ~~their~~ licensed health care provider. This can include their school's athletic trainer when appropriate. ~~The coach should provide the parent/guardian with written educational materials on concussions along with the district's concussion management policy.~~
- Inform the administrator, certified athletic trainer, or the school nurse of the student's potential concussion. This is necessary to ensure that the student does not engage in activities at school that may complicate the student's condition prior to having written clearance by a medical provider.
- Ensure that students diagnosed with a concussion do not participate in any athletic activities until, the PE teacher/coach has received written authorization from the athletic trainer or school nurse (in conjunction with the student's licensed health care provider) that the student has been cleared to participate.
- Ensure that students diagnosed with a concussion do not substitute mental activities for physical activities unless a licensed health care provider clears the student to do so (e.g., due to the need for cognitive rest, a student should not be required to write a report if they are not permitted to participate in PE class by their medical provider).
- Complete the ACPS approved course for coaches and PE teachers every year. ACPS has approved the course *Heads Up, Concussion in Youth Sports* for these professions, which is a free web-based course that has been developed by the CDC. It is available at https://www.cdc.gov/headsup/youthsports/training/index.html.
- Coaches should complete National Federation of State High School Associations (NFHS) training, *Concussion in Sports: What you need to know* at https://nfhslearn.com/courses/61064/concussion-in-sports

Teachers and Accommodations

Teachers can assist students in their recovery from a concussion by making accommodations that minimize aggravating symptoms so that the student has sufficient cognitive rest. Teachers should refer to division protocols and private medical provider orders in determining academic accommodations. Section 504 plans may need to be considered for some students with severe symptoms requiring an extended time frame for accommodations. Specific concerns about a student's recovery should be communicated to the school nurse.

Students transitioning into school after a concussion might need academic accommodations to allow for sufficient cognitive rest. These include, but are not necessarily limited to:

- Shorter school day
- Allow student to wake up without alarm clock, waking up naturally
- Rest periods - recommend the student be able to rest outside of the classroom for short blocks of time if classroom activities exacerbate symptoms
- Extended time for tests and assignments
- Postpone tests or stressing projects, or break them into smaller segments
- Avoid the more challenging academic classes
- Copies of notes
- Alternative assignments
- Minimizing distractions
- Permitting student to audiotape classes
- Peer note takers
- Provide assignments in writing
- Refocus student with verbal and nonverbal cues
- Allowance for items such as sunglasses, water bottles, or ear plugs

More information about concussions and classroom accommodations can be found at:
https://www.cdc.gov/headsup/pdfs/schools/tbi_factsheet_teachers-508-a.pdf
http://www.upstate.edu/pmr/healthcare/programs/concussion/classroom.php
http://www.nationwidechildrens.org/concussions-in-the-classroom
https://www.cdc.gov/headsup/pdfs/schools/tbi_returning_to_school-a.pdf

The following table provides some of the areas of difficulties along with suggested accommodations:

(Adapted from the Center for Disease Control and Prevention, *Heads Up Facts for Physicians About Mild*

Traumatic Brain Injury) Retrieved from http://www.concussiontreatment.com/images/CDC_Facts_for_Physicians_booklet.pdf

Problem Area	Problem Description	Accommodations
Expression	**Word Retrieval**: May have trouble thinking of specific words (word finding problems) or expressing the specifics of their symptoms or functional difficulties	• Allow students time to express themselves • Ask questions about specific symptoms and problems (i.e., are you having headaches?)
Comprehension	**Spoken:** • May become confused if too much information is presented at once or too quickly • May need extra time processing information to understand what others are saying • May have trouble following complex multi-step directions • May take longer than expected to respond to a question **Written:** • May read slowly • May have trouble reading material in complex formats or with small print • May have trouble filling out forms	• Speak slowly and clearly • Use short sentences • Repeat complex sentences when necessary • Allow time for students to process and comprehend • Provide both spoken and written instructions and directions • Allow students extra time to read and complete forms • Provide written material in simple formats and large print when possible • Have someone read the items and fill out the forms for students who are having trouble • Provide word prompts • Use of multiple choice responses need to be distinctly different

References

American Association of Neurological Surgeons
http://www.aans.org/Patient%20Information/Conditions%20and%20Treatments/Concussion.aspx, accessed 5/13/15

Brain Injury Association of Virginia
http://www.biav.net/ accessed 5/13/15

Centers for Disease Control and Prevention (CDC)
http://www.cdc.gov/headsup/index.html accessed 5/13/15

Centers for Disease Control and Prevention (CDC), *Morbidity and Mortality Weekly Report (MMWR)* [October 7, 2011/ 60(39); 1337-1342]

Guidelines for Concussion Management in the School Setting. June 2012. The University of the State of New York THE STATE EDUCATION DEPARTMENT Office of Student Support Services, Albany, New York 12234
http://www.p12.nysed.gov/sss/schoolhealth/schoolhealthservices/ConcussionManageGuidelines.pdf accessed 5/13/15

Consensus Statement on Concussion in Sport – The 5th~~4th~~ International Conference on Concussion in Sport~~, held in Zurich, November 2012~~Berlin, October 2016,
McCrory P, et al. *Br J Sports Med* ~~—~~*2017~~3~~; 0:1-10.~~47:250-258~~ doi:10.1136/bjsports-~~2017-097699 2013-092313~~
~~http://bjsm.bmj.com/content/47/5/250.full~~http://bjsm.bmj.com/content/51/11/838 -accessed ~~5/13/15~~2/6/18

Nationwide Children's Hospital - *An Educator's Guide to Concussions in the Classroom*
http://www.nationwidechildrens.org/concussions-in-the-classroom
accessed 5/13/15

Virginia Board of Education Guidelines for Policies on Concussions in Students
http://www.doe.virginia.gov/boe/guidance/health/2016-guidelines-for-policies-on-concussions-in-students.pdf
accessed 1/30/17

Children's National Health System, The Score Program, Schools
http://www.childrensnational.org/score/Schools.aspx
accessed 5/13/15

Appendix A

Alexandria City Public Schools

Concussion Management Guidelines for Extracurricular Athletics

The following protocols and guidelines shall be followed in the event any student, while participating in an ACPS activity, is suspected of suffering a concussion.

Appropriate management of concussions includes maintenance of accurate records. All information, including previous history, symptoms, and anecdotal information upon the first assessments following a concussion is to be included in the student data base. This includes the Standardized Assessment of Concussion with the Virginia Neurological Index (SAC VNI) scores.

PRE or EARLY SEASON

Concussion Education

Concussion Education shall be provided or made available to all coaches, students, and parents. Concussion education shall include, but is not limited to:

- Recognition of the signs and symptoms associated with concussion;
- Process of reporting a suspected concussion;
- Description of the concussion management process including importance of both cognitive and physical rest; and
- Description of a return to play process that is progressive in nature and established by a licensed health care professional.

Concussion education shall be a component of all pre-season coach, parent, and student meetings. In addition, concussion education should be shared with educational staff on an annual basis.

Administration of a Baseline Test

The following students should complete a baseline test as soon as possible during athletic participation:

- All 8th, 9th, and 11th graders that participate in a contact sport;
- Any student that has not been previously tested regardless of grade level; and
- Those with a history of concussion.

Baseline testing can be performed on any school based computer with a network connection and a working mouse. Multiple students may be tested together, but it is imperative that the process be conducted in an orderly manner and each student must be encouraged to perform his/her best. In addition, it is highly imperative that initial demographic information screens be completed in a systemic format as a group with close supervision. All students taking a baseline or post-injury test must be monitored by a certified athletic trainer. Once the test begins, the students should be left alone and reminded to refrain from disrupting other participants. It is important to recognize that post-injury tests cannot diagnose a concussion, but are useful tools for a trained professional when making treatment management decisions.

IMMEDIATELY FOLLOWING TRAUMA

Administration of the thorough clinical evaluation including the Standardized Assessment of Concussion (McCrae et al.) and the Virginia Neurological Index (Almquist et al.) (SAC VNI)

Initial proper management of a suspected concussion includes the following:

- Administration of the SAC VNI;
- Close monitoring of the student;
- Repeat performance of the SAC VNI prior to student leaving the athletic trainer's care when possible; and
- A copy of the "Concussion Information following a Concussion" is given to the student and/or parent.

~~The SAC VNI should be administered immediately following the injury to assist in determining the student's current status. In the event the student presents with signs and symptoms that prevent the administration of the SAC VNI or if the signs or symptoms worsen significantly over time, the student should be transported to an emergency receiving facility via EMS.~~

~~Following the initial SAC VNI assessment, the student should be monitored closely. The SAC VNI should be repeated prior to the student leaving the care of the certified athletic trainer. The second SAC VNI assessment should be performed a minimum of 20 minutes after the initial assessment. The scores of the two SAC VNI assessments should be compared and the results can be used to provide the care plan and follow-up procedures determined by the certified athletic trainer bases on a complete clinical evaluation. It is important to administer the SAC VNI if a concussion is suspected and/or any concussion symptoms are present following the trauma.~~

~~Should the SAC VNI not be administered as a "sideline test" at the time of trauma, the test should be completed at the earliest opportunity that same day to assist in the follow-up care procedures. Administration of the SAC VNI is optional when a student reports to the athletic trainer the day or days following the trauma.~~

~~The SAC VNI is a reliable tool best used to determine if a student is suffering from a concussion, but must be considered only a component of a complete clinical evaluation. Return to play criteria and assessment are more complex and require more sensitive assessment to be considered reliable.~~

~~Each student with a suspected concussion and his/her parent/guardian should be provided with a copy of "Concussion Information Following a Concussion" with an emphasis on instructions to seek immediate medical attention should any of the signs or symptoms appear and/or worsen significantly over time. Information regarding appropriate physical rest (refrain from independent team practices and games) and cognitive rest (limit studying, avoid video games, texting, etc.) should be provided to both the student and the parent/guardian.~~

~~When appropriate, options concerning school attendance modifications and academic accommodations may be discussed with parents/guardians.~~

FOLLOW-UP PROCEDURES

Proper follow-up management of concussion includes the following:

- Administration of useful symptoms, balance, and neurocognitive tools, when deemed appropriate by the athletic trainers (typically within 24-72 hours);

- Completion of a thorough clinical exam focusing on relevant symptoms indicating changes to normal cognitive and physical function;

- Communication with parents/guardians, guidance counselors, teachers, and coaches as appropriate regarding possible modifications to a typical day and cognitive and physical activities;

- Initiation of Return-To-Play (RTP) process including progressive increases in physical intensity AFTER the student is asymptomatic with rest, cognitive exertion, and performs at baseline or norm levels with neurocognitive testing before initiating return-to-play protocol; and

- RTP process includes a step-wise progressive increase in physical activity beginning with non-percussive activity, continuing through an intensive, extended, exercise bout reaching anaerobic threshold without any return of symptoms.

A complete evaluation of clinical signs and symptoms should be performed each day the student has access to the athletic training staff. The student should always be reminded to complete the test to the best of their ability and they should be monitored while taking the test.

Please remember any neurocognitive test is but one of several tools available in the comprehensive management of a concussion, and should never be the single determining factor in determining concussion management or return to play, nor should the perception by parents/coaches/students be that the test will be single determining factor regarding RTP.

Information from this test should be reviewed and information may be used to recommend rest/activity strategies. Information may also be used to coordinate management strategies with teachers regarding cognitive exertion. Cognitive exertion can be limited as deemed appropriate during the rest stage. Parents, teachers, and guidance counselors should be involved in each individual's concussion management plan with continuous feedback regarding the student's status and his/her symptoms at home and in the classroom.

Strategies to limit the exacerbation or return of symptoms may include but are not limited to:

- Allow student to wake up without an alarm clock, waking up naturally;
- Recommend the student be able to rest for short blocks of time if classroom activities exacerbate symptoms;
- Postpone tests or stressing projects; and
- Avoid the more challenging academic classes.

When a thorough clinical evaluation reveals all signs and symptoms have resolved, implement a progressive physical and cognitive exertion protocol. Progressive physical exertion should begin with low impact, low intensity that would raise respiration and heart rate while being closely monitored. If any signs or symptoms return, the student shall rest for at least 24 hours. The timeline of the progression of symptom resolution shall be documented in the SIMS computer system. Physical exertion should be progressively increased in stages over a minimum five-day period if no signs or symptoms return.

Return to Play Criteria

A licensed health care provider must base the RTP decision on the resolution of symptoms and a progressive amount of activity with close observation of symptoms. It is important to document all signs and symptoms of a concussed student in support of the return to play decision.

No student shall be allowed to return to extracurricular physical activities, which includes the student's practices, games, or competitions, until the student presents a written medical release from the student's licensed health care provider. The written medical release shall certify that (i) the provider is aware of the current medical guidance on concussion evaluation and management; (ii) the student no longer exhibits signs, symptoms, or behaviors consistent with a concussion at rest or with exertion; and (iii) the student has successfully completed a progressive return to sports participation program. The length of progressive return to sports participation program shall be determined by the student's licensed health care provider but shall last a minimum of five calendar days.

The coach of a student may elect not to allow a student to return to extracurricular physical activities, even after the production of written medical release from the student's licensed health care provider, if the coach observes signs and symptoms of sports-related concussions. If the student's coach makes such a decision, the coach shall communicate the observations and concerns to the student's parent or guardian within one day of the decision not to allow such student to return to extracurricular physical activities. (See School Board policy JJAC)

ACPS Concussion Management Summary

When dealing with concussion management, ACPS will support the decision to exclude a student from participation based on current scientific published and expert opinion. It is recommended that the athletic trainer leave open the opportunity for an individual student to receive extensive follow-up care including, but not limited to, full consultation with a neuro-psychologist, neurosurgeon, etc.

There are data that suggest the current knowledge of concussions by general practitioners, family physicians and primary care physicians are inconsistent with recent information regarding appropriate concussion management. Therefore, the knowledge of concussions possessed by this group of medical experts should be evaluated carefully before considering them an appropriate referral, especially when advice contrary to the guidelines is considered. It is strongly recommended that students suffering from a concussion be evaluated by a physician possessing knowledge of current scientific published guidelines prior to returning to participation in sports.

All efforts should be made by certified athletic trainers in cooperation with coaches to complete baseline neuropsychological testing on each student as soon as possible. It is essential that coaches and student cooperate in these efforts to obtain valid baseline tests on each student that participates in a contact sport.

Tips from the field:

Sample RTP Protocol: (at least 24 hours must pass between each step)

1. No exertional activity until asymptomatic.
2. Begin low-impact activity such as walking, stationary bike
3. Initiate aerobic activity to specific sport such as running; may also begin progressive strength training activities
4. Begin non-contact skill drills specific to sport, such as dribbling, fielding, batting, etc.
5. Full contact in practice setting.

~~6. If student remains asymptomatic, he or she may return to game/play.~~

~~• ACPS athletic trainers should be very careful regarding how the follow-up information is received by students, coaches, and parents. Many common statements have proven troublesome in the past. For example: "the student must see a physician before they are permitted to return to play." This may imply to someone that if a physician sees the student, they are automatically eligible to return to play.~~

~~• Follow the management guidelines. It is the guidelines, not the athletic trainer, which may prevent a student from returning to play. Discuss concussion management with your team physician. Strive to reach an agreement to follow the published guidelines and develop a game plan if care decisions for a student are challenged by coaches, parents, or treating physicians. The game plan might include the identification of neuro-psychologists or neurologists that might be consulted for an individual case.~~

~~• Athletic trainers must be familiar with recognizing signs and symptoms of concussions and should avoid minimizing the significance of apparent symptoms based on the influence of coaches, students or others that might be affected by the pressure of finishing a game or practice sessions.~~

~~• Understanding of a student's history of prior concussion is essential when making decisions regarding return to play. Information regarding previous history should be carefully evaluated for accuracy, paying attention to timing, significance of symptoms, and reports of physician's diagnosis. Inaccurate reporting can range from a student claiming they were "knocked out for a while" when they in fact never lost consciousness, to claiming it was not a concussion because they had no loss of consciousness but were confused and had a persistent headache for days. The athletic trainer should take extra measures to address the specifics of previous trauma when dealing with multiple injuries.~~