

To: AuSable Valley Central School District Board of Education
From: Concussion Management Committee
Re: AuSable Valley Central School District Concussion Management Policy
June 25, 2012

As a result of increasing statewide awareness regarding head injuries, and NYSED requiring all schools to implement a concussion management policy by July 1, 2012, concerned faculty and administration members met to review the district's current concussion management protocols.

Current research indicates head injuries are often overlooked and students return to activities before the brain is healed. A tool to help determine if a student is ready to return to his or her activity is to use neurocognitive testing, which includes ImPact, a procedure endorsed by the New York State Public High School Athletic Association. This is a critical component to keep students safe and healthy.

Over the past few months the Concussion Management Committee, (members Paul D. Savage II, Kurt Munson, Carrie Brand, Phil Mero and Steve Maiorca), have met to review the school district's concussion management protocols. In consultation with the school physicians, Dr. Demuro/Dr. Celotti and district-certified athletic trainer Dino Angelopoulos, the committee has proposed a concussion management policy.

The policy outlines the procedures to be taken in case of a concussion, to insure the health and safety of students. We are requesting approval of this policy so it can be implemented district wide.

Thank you for your consideration,

Concussion Management Committee

AVCS CONCUSSION POLICY

Management of concussion in sport can be challenging as there are no universal standards on concussion care and return to play guidelines. The following procedure was developed for use by the **Adirondack Medical Center (AMC), Department of Rehabilitation and Sports Medicine**. The goal for developing this procedure is that athletic trainers and physicians dealing with concussions adopt a common management program to allow for the diagnosis, treatment and return to play guidelines of concussed athletes (AMC).

Committee:

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Return to Play Guidelines:

- When considering return-to-play criteria for simple concussion, medical providers should focus attention on the athlete's recovery via:
 - symptoms,
 - neurocognitive testing,
 - postural stability testing.
- During this period of recovery in the first few days following injury, it is important to emphasize to the athlete that physical **AND** cognitive rest is required. Activities that require concentration and attention may exacerbate the symptoms and as a result delay recovery.
- The return-to-play (RTP) decision should be made after an incremental increase in activity with an initial cardiovascular challenge*, followed by sports-specific activities that do not place the athlete at risk for concussion. The athlete can be released to full participation as long as no recurrent signs or symptoms are present, and AVCS's support program has been successfully completed.

*Cardiovascular/Exercise Challenge

1. 20 minute aerobic exercise – treadmill, bike, stair stepper
2. 10 jumping jacks
3. 10 squat thrusts
4. 10 push ups
5. 10 sit ups

Return – To – Play Procedure:

To return to play following a concussion follows a stepwise process:

1. No activity, complete rest: once asymptomatic proceed to level 2.
2. Light aerobic exercise such as walking or stationary cycling, no resistance training.
3. Sport-specific exercise (i.e., skating in hockey, running in soccer), progressive at steps 4 or 5.
4. Non-contact training drills.
5. Full contact training after medical clearance.
6. Game play.

Resistance training has been shown to increase intracranial pressure and to exacerbate post concussive symptoms, particularly headaches, dizziness and so forth. Resistance training can be generally added in the later stages of the step-wise approach (around step 5), beginning with low weight/high repetition exercises and then progressing to higher weights if asymptomatic and tolerated.

It must be emphasized that each step must take a minimum of 1 day, as it is widely recognized that symptoms may not worsen at the time of exertion, but later in the day or even the next day.

Progression through the procedure is dependent upon being asymptomatic at each level. If any symptoms occur, then the athlete should cease activity, drop back to the previous asymptomatic level, and try to progress again the next day. However, if symptoms recur and are persistent, the athlete should return to resting until asymptomatic.

With complex concussion, the rehabilitation will be more prolonged and return to play advice will be more circumspect. It is envisaged that complex cases should be managed by physicians with a specific expertise in the management of such injuries.

I. GUIDELINES AND PROCEDURES FOR COACHES:

RECOGNIZE, REMOVE, REFER

A. **Recognize** concussion

1. All coaches should become familiar with the signs and symptoms of concussion that are described in Appendix A.
2. All coaches should become familiar with the Sideline Cognitive Assessment that should be performed to determine cognitive deficits. (See appendix B).
3. School coaches and P.E. teachers must complete the CDC course (www.cdc.gov/concussion/HeadsUp/online_training.html)
4. School nurses and certified athletic trainers must complete the concussion course. (<http://preventingconcussions.org>).

B. **Remove** from activity

Any athlete who exhibits signs or symptoms of a concussion should be removed immediately, assessed, and should not be allowed to return to activity that day.

1. Coaches should seek assistance from the host site Certified Athletic Trainer if at an away event.
2. In the absence of a Certified Athletic Trainer, it is the coach's responsibility to remove an athlete and assess their condition.
3. If a coach suspects the athlete has sustained a concussion, the athlete should be removed from activity until evaluated medically.
4. Parents may not release the coach from this responsibility once the decision to remove the athlete has been made.

C. **Refer** the athlete for medical evaluation

1. Any athlete with a witnessed loss of consciousness (LOC) of any duration should be spine boarded and transported immediately to nearest emergency department via emergency vehicle.
2. Any athlete who has symptoms of a concussion, and who is not stable (i.e., condition is changing or deteriorating), is to be transported immediately to the nearest emergency department via emergency vehicle.
 - a. Decreasing level of consciousness
 - b. Mental status changes: lethargy, difficulty maintaining arousal, confusion or agitation
 - c. Unequal, dilated, or unreactive pupils
 - d. Vomiting
 - e. Increasing headache
 - f. Seizure activity

3. An athlete who is symptomatic but stable, may be transported by his or her parents. The parents should be advised to contact the athlete's primary care physician, or seek care at the nearest emergency department, on the day of the injury.
 - a. ALWAYS give parents the option of emergency transportation, even if you do not feel it is necessary.
4. If the AVCS athletic trainer (AT) is unavailable, or the athlete is injured at an away event, the coach is responsible for notifying the athlete's parents of the injury.
 - a. Contact the parents to inform them of the injury and make arrangements for them to pick the athlete up at school.
 - b. Provide the parents with the Concussion Information Sheet
 - c. Remind the athlete to report directly to the school nurse before school starts, on the day he or she returns to school after the injury.
5. In the event that an athlete's parents cannot be reached, and the athlete is able to be sent home (rather than directly to MD):
 - a. The coach should insure that the athlete will be with a responsible individual, before allowing the athlete to go home.
 - b. Provide the responsible party with the Concussion Information Sheet
 - c. The coach should continue efforts to reach the parent.
 - d. If there is any question about the status of the athlete, or if the athlete is unable to be monitored appropriately, the athlete should be referred to the emergency department for evaluation. A coach or ATC should accompany the athlete and remain with the athlete until the parents arrive.
 - e. Athletes with suspected head injuries should not be permitted to drive home.
6. Coaches should file a completed accident report with the school nurse by the morning of the next school day.
 - a. The school nurse will be responsible for processing the accident report, and contacting the athlete's parents to provide follow-up instructions.

RECOGNITION OF CONCUSSION – Appendix A

A. Common signs and symptoms of sports-related concussion

1. Signs (observed by others):

- Athlete appears dazed or stunned
- Confusion (about assignment, plays, etc.)
- Forgets plays
- Unsure about game, score, opponent
- Moves clumsily (altered coordination)
- Balance problems
- Personality change
- Responds slowly to questions
- Forgets events prior to hit
- Forgets events after the hit
- Loss of consciousness (any duration)

2. Symptoms (reported by athlete):

- Headache
- Fatigue
- Nausea or vomiting
- Double vision, blurry vision
- Sensitive to light or noise
- Feels sluggish
- Feels “foggy”
- Problems concentrating
- Problems remembering

3. These signs and symptoms are indicative of probable concussion. Other causes for symptoms should also be considered.

II. FOLLOW-UP CARE OF THE ATHLETE DURING THE SCHOOL DAY

A. Responsibilities of the school nurse after notification of student's concussion

1. The school nurse will process the accident report received from the coach.
2. The nurse will contact the athlete's parents to answer questions and provide parent/student education.
3. The athlete will be instructed to report to the school nurse upon his or her return to school. At that point, the school nurse will:
 - a. Re-evaluate the athlete utilizing a graded symptom checklist.
 - b. Notify the student's guidance counselor and teachers of the injury.
 - c. In cooperation with the guidance counselor, develop an individualized health care plan based on both the athlete's current condition, and any instructions from the athlete's physician.
4. Notify the student's P.E. teacher immediately that the athlete is restricted from all physical activity until further notice.
5. Facilitate follow up with the school certified athletic trainer for further evaluation.
6. Monitor the athlete on a regular basis during the school day.
7. If a follow up appointment with the physician is scheduled provide the athlete with a letter to the physician describing the AVCS protocol for the athlete's return to sport.

B. Responsibilities of the student's guidance counselor

1. Monitor the student closely and recommend appropriate academic accommodations for students who are exhibiting symptoms of post-concussion syndrome.
2. Communicate with school health office on a regular basis, to provide the most effective care for the student.

III. RETURN TO PLAY (RTP) PROCEDURES AFTER CONCUSSION

A. Returning to participate on the same day of injury

1. As previously discussed in this document, an athlete who exhibits signs or symptoms of concussion, or has abnormal cognitive testing, should not be permitted to return to play on the day of the injury. Any athlete who denies symptoms but has abnormal sideline cognitive testing should be held out of activity. “When in doubt, hold them out.”

B. Return to play after concussion

1. The athlete must meet all of the following criteria in order to progress to activity:
 - a. Asymptomatic at rest and with exertion (including mental exertion in school) AND:
 - b. Have written clearance from a medical provider (physician, PA, FNP trained in concussion management (see list of providers) for progression to activity.
2. Once the above criteria are met, the athlete will be progressed back to full activity following a stepwise process, (as recommended by both the Zurich 2008* and NATA Statements⁺), at the discretion of the AT.
3. Progression is individualized, and will be determined on a case-by-case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport should be progressed more slowly.
4. Stepwise progression as described in the Zurich 2008 Statement:
 - a) No activity – do not progress to step 2 until asymptomatic for 24 hrs
 - b) Light aerobic exercise – * Exercise Challenge, walking, stationary bike
 - c) Sport-specific training (e.g., skating in hockey, running in soccer)
 - d) Non-contact training drills
 - e) Full-contact training after medical clearance
 - f) Game play
 - The Exercise Challenge consists of: 20 minutes of aerobic activity followed by 10 reps each of jumping jacks, squat thrusts, push-ups and sit-ups. The athlete then completes the Graded Symptom Checklist immediately and again 30 minutes later.

If the athlete experiences post-concussion symptoms during any phase, the athlete should drop back to the previous asymptomatic level and resume the progression after 24 hours.

Note: Resistance training has been shown to increase intracranial pressure and to exacerbate post concussive symptoms. Resistance training can generally be added around step 4 beginning with lightweights and higher repetitions and progressing as tolerated.

5. The AT and athlete will discuss appropriate activities for the day. The athlete will be given written instructions to provide to the coach.

6. The athlete will continue to see the AT for reassessment and instructions until he, or she has progressed to unrestricted activity, and been given a written release from the AT to that affect.

7. The AT will notify the schools nurse once the athlete is cleared, and the nurse will in turn notify the appropriate staff (guidance counselor, teachers).

*Consensus Statement on Concussion in Sport 3rd International Conferene on Concussion in Sport Held in Zurich, November 2008 (Clin J Sport Med • Volume 19, Number 3, May 2009)

±National Athletic Trainer's Association position statement: management of sport-related concussion (J Athl Train. 2004;29(3):280-2997

AuSable Valley Central School District Home Care for Concussions

Athlete _____ Date of injury _____ Sport _____

Home phone _____ Parent/guardian name _____

Your son/daughter has sustained a head injury while participating in _____.
In some instances, the signs of a concussion do not become obvious until several hours or even days after the injury. Please be especially observant for the following signs and symptoms.

1. Headache (especially one that increases in intensity*)
2. Nausea and vomiting*
3. Difference in pupil size from right to left eye, dilated pupils*
4. Mental confusion/behavior changes
5. Dizziness
6. Memory loss
7. Ringing in the ears
8. Changes in gait or balance
9. Blurry or double vision*
10. Slurred speech*
11. Noticeable changes in the level of consciousness (difficulty awakening, or losing consciousness suddenly)*
12. Seizure activity*
13. Decreased or irregular pulse OR respiration*

*** Seek medical attention at the nearest emergency department.**

The best guideline is to note symptoms that worsen, and behaviors that seem to represent a change in your son/daughter. If you have any question or concern at all about the symptoms you are observing, contact your family physician for instructions, or seek medical attention at the closest emergency department. Otherwise, you can follow the instructions outlined below.

It is OK to:

- Use acetaminophen (Tylenol) for headaches
- Use ice pack on head & neck as needed for comfort
- Eat a light diet
- Go to sleep
- Rest (no strenuous activity or sports)

There is NO need to:

- Check eyes with a flashlight
- Wake up every hour
- Test reflexes
- Stay in bed

Do NOT:

- Drink alcohol
- Drive while symptomatic
- Exercise or lift weights
- Take ibuprofen, aspirin, naproxen or other non-steroidal anti-inflammatory medications

Please remind your child to check in with the School Nurse prior to going to class, on the first day he or she returns to school. Your child should also follow up with the Certified Athletic Trainer after school.

Recommendations provided to: _____ Phone #: _____

Recommendations provided by: _____ Phone #: _____

Date: _____ Time: _____



Concussions: The Invisible Injury

Student and Parent Information Sheet

CONCUSSION DEFINITION

A concussion is a reaction by the brain to a jolt or force that can be transmitted to the head by an impact or blow occurring anywhere on the body. Essentially a concussion results from the brain moving back and forth or twisting rapidly inside the skull.

FACTS ABOUT CONCUSSIONS ACCORDING TO THE CENTER FOR DISEASE CONTROL (CDC)

- An estimated 4 million people under age 19 sustain a head injury annually. Of these approximately 52,000 die and 275,000 are hospitalized.
- An estimated 300,000 sports and recreation related concussions occur each year.
- Students who have had at least one concussion are at increased risk for another concussion.

In New York State in 2009, approximately 50,500 children under the age of 19 visited the emergency room for a traumatic brain injury and of those approximately 3,000 were hospitalized.

REQUIREMENTS OF SCHOOL DISTRICTS

Education:

- Each school coach, physical education teacher, nurse, and athletic trainer will have to complete an approved course on concussion management on a biennial basis, starting with the 2012-2013 school year.
 - * School coaches and physical education teachers must complete the CDC course. (www.cdc.gov/concussion/HeadsUp/online_training.html)
 - * School nurses and certified athletic trainers must complete the concussion course. (<http://preventingconcussions.org>)

Information:

- Provide concussion management information and sign off with any parental permission form. **The NYSPHSAA will provide a pamphlet to member schools on the concussion management information for parents.**
- The concussion management and awareness information or the State Education Department's web site must be made available on the school web site, if one exists.

Removal from athletics:

- Require the immediate removal from athletic activities of any pupil that has or is believed to have sustained a mild traumatic brain injury.
- No pupils will be allowed to resume athletic activity until they have been symptom free for 24 hours and have been evaluated by and received written and signed authorization from a licensed physician. For interscholastic athletics, clearance must come from the school medical director.
 - * Such authorization must be kept in the pupil's permanent health record.
 - * Schools shall follow directives issued by the pupil's treating physician.

SYMPTOMS

Symptoms of a concussion are the result of 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 will last for weeks or longer. Children and adolescents are more susceptible to concussions and take longer than adults to recover.

It is imperative that any student who is suspected of having a concussion is removed from athletic activity (e.g. recess, PE class, sports) and remains out of such activities until evaluated and cleared to return to activity by a physician.

Symptoms include, but are not limited to:

- Decreased or absent memory of events prior to or immediately after the injury, or difficulty retaining new information
- Confusion or appears dazed
- Headache or head pressure
- Loss of consciousness
- Balance difficulties, 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 or light-headed
- Concentration or focusing problems
- Drowsiness
- Fatigue and/or sleep issues – sleeping more or less than usual

Students who develop any of the following signs, or if signs and symptoms worsen, should 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
- Change in pupil size in one eye
- Significant irritability
- Any loss of consciousness
- Suspicion for skull fracture: blood draining from ear or clear fluid from the nose

STATE EDUCATION DEPARTMENT'S GUIDANCE FOR CONCUSSION MANAGEMENT

Schools are advised to develop a written concussion management policy. A sample policy is available on the NYSPHSAA web site at www.nysphsaa.org. The policy should include:

- A commitment to reduce the risk of head injuries.
- A procedure and treatment plan developed by the district medical director.
- A procedure to ensure proper education for school nurses, certified athletic trainers, physical education teachers, and coaches.
- A procedure for a coordinated communication plan among appropriate staff.
- A procedure for periodic review of the concussion management program.

RETURN TO LEARN and RETURN TO PLAY PROTOCOLS

Cognitive Rest: Activities students should avoid include, but are not limited to, the following:

- Computers and video games
- Television viewing
- Texting
- Reading or writing
- Studying or homework
- Taking a test or completing significant projects
- Loud music
- Bright lights

Students may only be able to attend school for short periods of time. Accommodations may have to be made for missed tests and assignments.

Physical Rest: Activities students should avoid include, but are not limited to, the following:

- Contact and collision
- High speed, intense exercise and/or sports
- High risk for re-injury or impacts
- Any activity that results in an increased heart rate or increased head pressure

Return to Play Protocol once symptom free for 24 hours and cleared by School Medical Director:

Day 1: Low impact, non strenuous, light aerobic activity.

Day 2: Higher impact, higher exertion, moderate aerobic activity. No resistance training.

Day 3: Sport specific non-contact activity. Low resistance weight training with a spotter.

Day 4: Sport specific activity, non-contact drills. Higher resistance weight training with a spotter.

Day 5: Full contact training drills and intense aerobic activity.

Day 6: Return to full activities with clearance from School Medical Director.

Any return of symptoms during the return to play protocol, the student will return to previous day's activities until symptom free.

CONCUSSION MANAGEMENT TEAM

Schools may, at their discretion, form a concussion management team to implement and monitor the concussion management policy and program. The team could include, but is not limited to, the following:

- Students
- Parents/Guardians
- School Administrators
- Medical Director
- Private Medical Provider
- School Nurse
- Director of Physical Education and/or Athletic Director
- Certified Athletic Trainer
- Physical Education Teacher and/or Coaches
- Classroom Teachers

OTHER RESOURCES

- New York State Education Department
- New York State Department of Health
http://www.health.ny.gov/prevention/injury_prevention/concussion/htm
- New York State Public High School Athletic Association
www.nysphsaa.org/safety/
- Center for Disease Control and Prevention
<http://cdc.gov/concussions>
- National Federation of High Schools
www.nfhslearn.com – The FREE Concussion Management course does not meet education requirement.
- Child Health Plus
http://www.health.ny.gov/health_care/managed_care/consumer_guide/about_child_health_plus.htm
- Local Department of Social Services – New York State Department of Health
http://www.health.ny.gov/health_care/medicaid/ldss/htm
- Brain Injury Association of New York State
<http://www.bianys.org>
- Nationwide Children's Hospital – Concussions in the Classroom
<http://www.nationwidechildrens.org/concussions-in-the-classroom>
- Upstate University Hospital – Concussions in the Classroom
<http://www.upstate.edu/pmr/healthcare/programs/concussion/classroom.php>
- ESPN Video – Life Changed by Concussion
<http://espn.go.com/video/clip?id=7525526&categoryid=5595394>
- SportsConcussions.org
<http://www.sportsconcussions.org/ibaseline/>
- American Association of Neurological Surgeons
<http://www.aans.org/Patient%20Information/Conditions%20and%20Treatment/Concussion.aspx>
- Consensus Statement on Concussion in Sport – Zurich
<http://sportconcussions.com/html/Zurich%20Statement.pdf>