

Taconic Hills Central School District Concussion Management Procedure

TACONIC HILLS CONCUSSION MANAGEMENT PROTOCOLS

Statement

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. The symptoms of a concussion occur 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 situations, 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, etc.) and remain out of athletic activity until evaluated and cleared to return to athletic activity by a physician.

The Board of Education of the Taconic Hills Central School District recognizes that concussions and head injuries are serious injuries for children and adolescents who participate in sports and recreational activities. The BOE also recognizes the importance of early identification and appropriate action being taken for concussions or suspected concussions. Recovery from concussions will vary, so avoiding re-injury and overexertion until fully recovered are the cornerstones of proper concussion management.

Any student who demonstrates signs, symptoms, or behaviors consistent with a concussion while participating in a school sponsored class, extracurricular activity, or interscholastic athletic activity will be removed from the game or activity. The procedures and protocols outlined in this document will be followed to help ensure that the best possible outcome for students affected by head injuries occurs. This document will also provide guidance, tools and information for teachers, coaches, and parents/guardians during the recovery process (Appendix 1: Concussions: The Invisible Injury for Students and Parents and Appendix 5: Heads Up for Teachers). The student will not return to school or activities until released by an appropriate health care professional. Any student who continues to have signs or symptoms upon their return to the activity must be removed from play and reevaluated by their health care provider.

Prevention and Safety

The Taconic Hills Central School District realizes that 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, efforts can still be maintained to reduce risk. To minimize risk, the district shall utilize education, proper equipment, and supervision for district staff, students, and parents/guardians.

Education:

All school coaches, physical education teachers, nurses, certified athletic trainers, recess monitors, school counselors, lifeguards, and 1-on-1 aides must complete a NYS Education Department approved course on concussion and concussion management every 2 years. The district Director of Human Resources will maintain documentation of course completion.

Students will receive instruction on concussion and proper reporting of symptoms of concussion through the Physical Education teachers and coaches. Instruction shall include but not be limited to symptoms of concussion, how these injuries occur, management of these injuries, and District protocol for return to activity and/or athletics. This information will be reviewed at the beginning of every sport season with the coaching staff and at the beginning of the school year with physical education (ALL district personnel) teachers.

Per Commissioner's' Regulation 135.4(c)(4), the District will employ a Director of Physical Education who will be certified in physical education and administrative and supervisory service, if applicable. This director will provide leadership and supervision for the class instruction, intramural activities, and interscholastic athletic competition in the total physical education program. Where there are extenuating circumstances, a member of the district's physical education staff will be designated for such responsibilities and upon the approval of the Commissioner.

The District Director of Athletics will distribute written information on concussions and the District protocols regarding management of concussions to coaches during pre-season meetings for athletic participation. Permission forms for athletic participation will include information on concussion and/or how to access information through the NYS Education/Department of Health websites. Concussion information will also be posted on the District Athletic Website.

Academic teachers and other persons in supervision of students will receive written information on concussions and the District protocols on the management of concussions at the beginning of each academic school year through the building principals.

Identification of Concussions

Any student who is observed to, or is suspected of, suffering a significant blow to the head, has fallen from any height, or has a collision with another person or object, may have sustained a concussion. Symptoms may appear immediately, over a few hours, or evolve and worsen over the span of a few days. Therefore, school personnel who observe a student displaying signs or symptoms of a concussion, or learn of a head injury from a student, should immediately remove the student from all activity and have the student accompanied to the school nurse or released into the care of a parent.

For more information about the signs and symptoms associated with concussions (Appendix 1: "Concussions: The Invisible Injury").

All District approved personnel in supervision of students must be able to recognize signs and symptoms of concussion and recognize how these injuries occur.

All students with a potential concussion, observed or reported, must be removed from physical activities, academic classes, or extracurricular activities, and remain under observation until a parent/guardian is present and/or a medical assessment is initiated (Appendix 3: Concussion Checklist).

The District approved person in supervision of students will contact the parent/guardian, the school nurse, the Director of Athletics, teachers, coaches, and/or school administrator(s) as deemed appropriate at the time of the concussion event and request an evaluation by a medical provider as soon as possible.

The District approved person in supervision of students will submit an accident report describing the incident and all actions taken. This report shall be submitted to the school nurse, the Director of Athletics, and/or school administrator(s) within 24 hours of the event. (Appendix 3: Concussion Checklist).

Post-Concussion Management

Students who have been diagnosed with a concussion require both physical and cognitive rest. Delay in instituting medical provider orders for such rest may prolong recovery from a concussion. Private medical provider's orders should be followed and monitored at home and at school. Cognitive rest requires that a student avoid participation in, or exposure to, activities that require concentration and mental stimulation including, but not limited to: computers, video games, television, texting, reading, writing, studying, homework, test taking, completing projects, loud music, or bright lights. Physical rest includes getting adequate sleep, taking frequent rest periods or naps, and avoiding physical activity that requires exertion.

The District requires a medical provider to evaluate students with a suspected concussion or who shows signs of a concussion. Providers are defined as a licensed physician, nurse practitioner, or physician assistant. Evaluations and written releases must be specific to that particular student (Appendix 3: Concussion Checklist).

Students sustaining a concussion during school sponsored athletic activities must be evaluated by, and receive written and signed authorization from, a licensed physician to return to activities. Additionally, the District Medical Director must clear student for return to play progression and the final return to interscholastic athletics.

Students sustaining a concussion anywhere other than school sponsored athletic activities must have a written and signed clearance to return to activities from their physician, nurse practitioner, or physician assistant. The Return to Play/Activity protocols will then be initiated during physical education class.

All students with written and signed authorization from the District Medical Director to return to interscholastic athletics must follow the "Return to Play/Activity" protocol contained in this document (Appendix 4: Return to Play).

The physical education teacher, athletic coach, and/or school nurse will monitor progress on each phase of the "Return to Play/Activity" protocol for athletes cleared by the District Medical Director to return to interscholastic athletics.

The Physical Education teacher will supervise a gradual return to physical education activities for post-concussion students who are cleared by a physician to return to physical education classes. This gradual return program will be developed by the teacher and will be based on the scheduled program unless otherwise specified by the medical provider.

The school counselor will communicate with and provide appropriate modifications to academic requirements in collaboration with the student's teachers and the medical providers written recommendations.

School personnel shall report any observed or communicated return of symptoms to the school nurse, who will then contact the parent/guardian, the Director of Athletics, and/or school administrator(s) and may initiate a medical re-assessment.

RETURN TO PLAY/ ACTIVITY PROTOCOL

Emerging research suggests that some symptoms may be acceptable during return to activities. The student's health care provider may choose to clear a student to begin a gradual return to activities while symptoms are present. If the district has concerns or questions about the private medical provider's orders, the District Medical Director will contact that provider to discuss and clarify. The District Medical Director has the final authority to clear students to progress to the Return to Play protocol and/or to return to extracurricular athletics/activities.

Once return to play commences, student will be evaluated daily by the coach for a successful completion of the "return to play" steps. Coach will then enter objective data into a Google document set up by the Athletic Director. The next morning the School Nurse will review data on all progressive return to play students and sign off to continue on to the next step. If necessary, the School Nurse will seek out student for further evaluation. If the School Nurse is not available, the School LPN will seek out student(s) and obtain information from the Google document and call Rapid Care to discuss objective data. The School Physician at Rapid Care will authorize moving on to next step based on data reported from the LPN. If at any time, the student exhibits signs/symptoms of a concussion; student will be removed for minimum of 24 hours and resume at previous step.

The district is following the recommended return to physical activity below:

Phase 1: Low impact, non-strenuous light aerobic activity such as walking or riding a stationary bike. If tolerated without return of symptoms with one night's rest proceed to;

Phase 2: Higher impact, higher exertion, and moderate aerobic activity such as running or jumping rope. No resistance training. If tolerated without return of symptoms with one night's rest proceed to;

Phase 3: Sport specific non-contact activity. low resistance weight training with a spotter. If tolerated without return of symptoms with one night's rest proceed to;

Phase 4: Sport specific activity, non-contact drills and intense aerobic activity. If tolerated without return of symptoms with one night's rest proceed to;

Phase 5: Full contact training drills and intense aerobic activity. If tolerated without return of symptoms with one night's rest proceed to;

Phase 6: Return to full activities without restriction after health office has received clearance from the district medical director.

** If concussion symptoms return during any of the above activities, the student must return to the previous level after one night's rest.

Appendix 1 – Concussions: The Invisible Injury



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 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
<http://www.p12.nysed.gov/sss/schoolhealth/schoolhealthservices>
- 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/TraumaticBrainInjury>
- 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>

Appendix 2: Concussions in Sports Informational Card for Coaches

(This mental status assessment is recommended for high school-age athletes and older. Any inability of the athlete to respond correctly to the questions below should be considered abnormal.)

<p>Orientation</p> <p>What period/quarter/half are we in? What stadium/field is this? What city is this? Who is the opposing team? Who scored last? What team did we play last?</p>
<p>Anterograde Amnesia</p> <p>Ask the athlete to repeat the following words: <i>Girl, Dog, Green</i></p>
<p>Retrograde Amnesia</p> <p>Ask the athlete the following: Do you remember the hit? What happened in the play prior to the hit? What happened in the quarter/period prior to the hit? What was the score of the game prior to the hit?</p>
<p>Concentration</p> <p>Ask the athlete to do the following: Repeat the days of the week backwards (starting with today) Repeat the months of the year backward (starting with December) Repeat these numbers backward 63 (36), 419 (914), 6294 (4926)</p>
<p>Word List Memory</p> <p>Ask the athlete to repeat the three words from earlier: <i>Girl, Dog, Green</i></p>

On-Field Mental Status Evaluation

No Return to Play

Any athlete who exhibits signs and symptoms of concussion should be removed from play and should not participate in games or practices until they have been evaluated and given permission by an appropriate health care provider. Research indicates that high school athletes with less than 15 minutes of on-field symptoms exhibited deficits on formal neuropsychological testing and re-emergence of active symptoms, lasting up to one week post-injury.²

Exertion

Symptoms will typically worsen or re-emerge with exertion, indicating incomplete recovery. If the athlete is symptom-free, provoking with exertion is recommended (e.g. 5 push-ups, 5 sit ups, 5 knee bends, 40 yard sprint).

Return to play should occur gradually. Individuals should be monitored by an appropriate health care provider for symptoms and cognitive function carefully during each stage of increased exertion.

Repeated Evaluation

On-field, follow-up evaluation (e.g. every 5 minutes) is important, as signs and symptoms of concussion may evolve over time.

Off-Field Management

The physician should provide information to parents/caregivers regarding the athlete's condition. For example, the athlete:

- Should not operate a motor vehicle or participate in activities such as sports, PE class, riding a bicycle, riding carnival rides, etc.
- May experience cognitive/behavioral difficulties at home, making it necessary to reduce physical and cognitive exertion (e.g., running, lifting weights, intensive studying) until fully recovered.
- Should receive follow-up medical and neuropsychological evaluation, both for managing injury and determining return to sports.

¹Adapted from: Lovell MR, Collins MW, Iverson GL, Johnston KM, Bradley JP. Grade 1 or "ding" concussions in high school athletes. *The American Journal of Sports Medicine* 2004;32(1):47-54.

²Lovell MR, Collins MW, Bradley J. Return to play following sports-related concussion. *Clinics in Sports Medicine* 2004;23(3):421-41.

<p>Signs of Deteriorating Neurological Function</p>
<p>An athlete should be taken to the emergency department if any of the following signs and/or symptoms are present:</p> <ul style="list-style-type: none"> • Headaches that worsen • Seizures • Focal neurologic signs • Looks very drowsy or can't be awakened • Repeated vomiting • Slurred speech • Can't recognize people or places • Increasing confusion or irritability • Weakness or numbness in arms or legs • Neck pain • Unusual behavior change • Significant irritability • Any loss of consciousness greater than 30 seconds or longer (Brief loss of consciousness (under 30 seconds) should be taken seriously and the patient should be carefully monitored.)

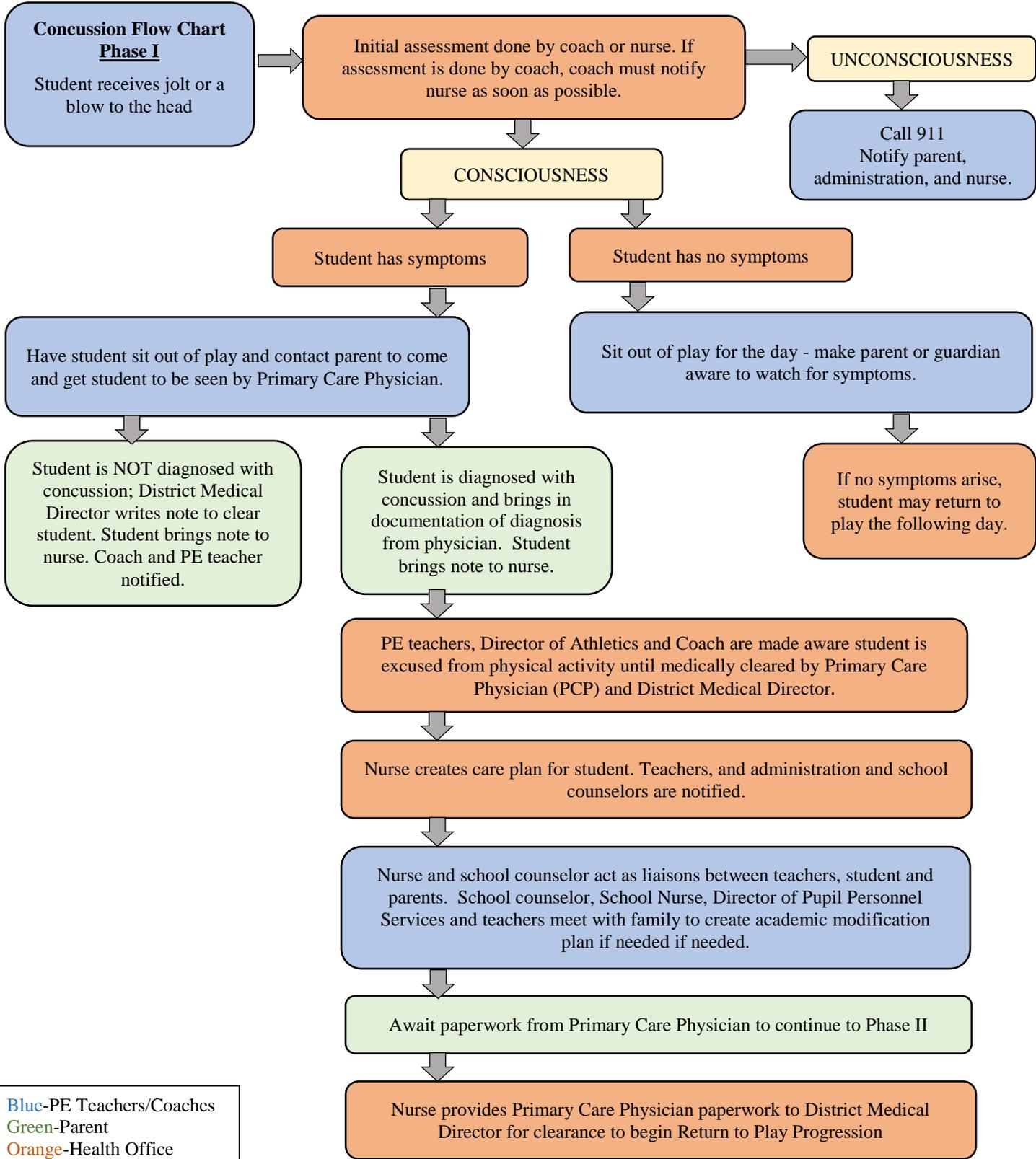


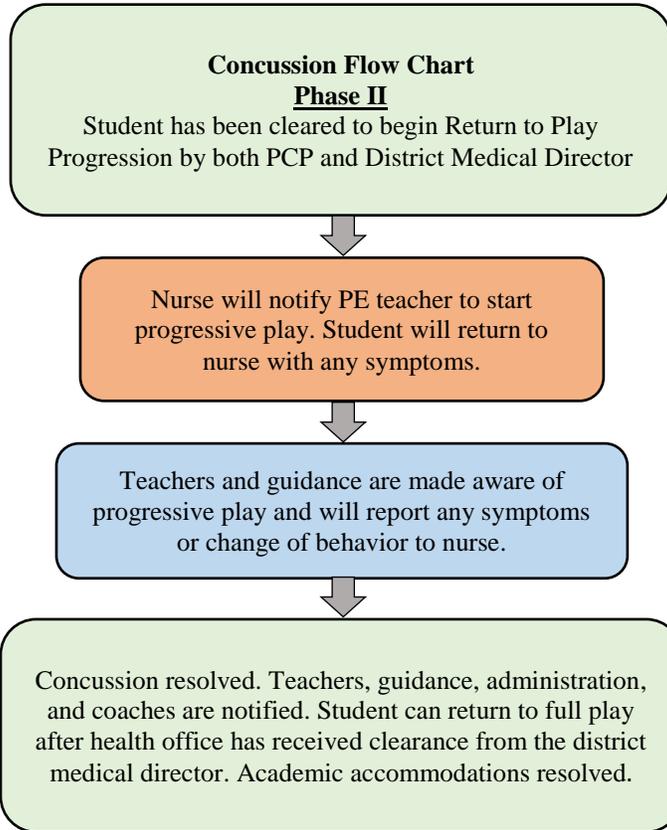
Concussion in Sports

This palm card provides information and tools to help medical staff with the on-field recognition and management of concussion.

Concussion Signs and Symptoms¹	
<p>Signs Observed by Medical Staff</p> <p>Appears dazed or stunned Is confused about assignment Forgets sports plays Is unsure of game, score, opponent Moves clumsily Answers questions slowly Loses consciousness (even briefly) Shows behavior or personality changes Can't recall events prior to hit or fall (retrograde amnesia) Can't recall events after hit or fall (anterograde amnesia)</p>	<p>Symptoms Reported by Athlete</p> <p>Headache or "pressure" in head Nausea Balance problems or dizziness Double or fuzzy vision Sensitivity to light Sensitivity to noise Feeling sluggish or slowed down Feeling foggy or groggy Does not "feel right"</p>

¹This palm card is part of the "Heads Up: Brain Injury in Your Practice" tool kit developed by the Centers for Disease Control and Prevention (CDC). For more information, visit: www.cdc.gov/injury.





Blue-PE
Teachers/Coaches
Green-Parent
Orange-Health Office

Appendix 3 – Concussion Checklist

CONCUSSION CHECKLIST
(Revision #3)

Name: _____ Age: _____ Grade: _____ Sport: _____

Date of Injury: _____ Time of Injury: _____

On-Site Evaluation

Description of Injury: _____

Has the athlete ever had a concussion?	Yes	No	Unclear
Was there a loss of consciousness?	Yes	No	Unclear
Does he/she remember the injury?	Yes	No	Unclear
Does he/she have confusion after the injury?	Yes	No	Unclear

Symptoms observed at time of injury:

Dizziness	Yes	No	Headache	Yes	No
Ringing in Ears	Yes	No	Nausea/Vomiting	Yes	No
Drowsy/Sleepy	Yes	No	Fatigue/Low Energy	Yes	No
“Don’t Feel Right”	Yes	No	Feeling “Dazed”	Yes	No
Seizure	Yes	No	Poor Balance/Coordination	Yes	No
Memory Problems	Yes	No	Loss of Orientation	Yes	No
Blurred Vision	Yes	No	Sensitivity to Light	Yes	No
Vacant Stare/Glassy Eyed	Yes	No	Sensitivity to Noise	Yes	No

***Please circle yes or no for each symptom listed above.**

Other Findings/Comments: _____

Final Action Taken: Parents Notified Sent to Hospital

Evaluator’s Signature: _____ Title: _____

Address: _____ Date: _____ Phone #: _____

Appendix 4 - Return to Play

Concussion Return to Play

Student's Name: _____ **Grade:** _____

Date: _____

The school physician has cleared the above student to begin the Return to Play protocol.

School Physician Signature

School Nurse Signature

Concussion Return to Play

Student's Name: _____ **Grade:** _____

Date: _____

The school physician has cleared the above student to return to Interscholastic Athletics.

School Physician Signature

School Nurse Signature

Taconic Hills Student Return to Play Process

Date Cleared for RTP: _____

Name: _____

Grade: _____ Athlete _____

Non-Athlete _____

Phase	Student Schedule	Date	Name of School Personnel Completing RTP (PE, AD, Nurse, etc.)	Nurse Check	Status
Phase 1: Low impact, non-strenuous light aerobic activity such as walking or riding a stationary bike. . If tolerated without return of symptoms with one night's rest proceed to;					___ Stay on this phase ___ Move to next phase
Phase 2: Higher impact, higher exertion, and moderate aerobic activity such as running or jumping rope. No resistance training. If tolerated without return of symptoms with one night's rest proceed to;					___ Stay on this phase ___ Move to next phase
Phase 3: Sport specific non-contact activity. low resistance weight training with a spotter. If tolerated without return of symptoms with one night's rest proceed to;					___ Stay on this phase ___ Move to next phase
Phase 4: Sport specific activity, non-contact drills and intense aerobic activity. If tolerated without return of symptoms with one night's rest proceed to;					___ Stay on this phase ___ Move to next phase
Phase 5: Full contact training drills and intense aerobic activity. If tolerated without return of symptoms with one night's rest proceed to;					___ Stay on this phase ___ Move to next phase
Phase 6: Return to full activities without restriction after health office has received clearance from the district medical director.					___ Phase completed

Students will complete the process during PE class and/or another class as outlined by the school nurse/administration.

PROCESS:

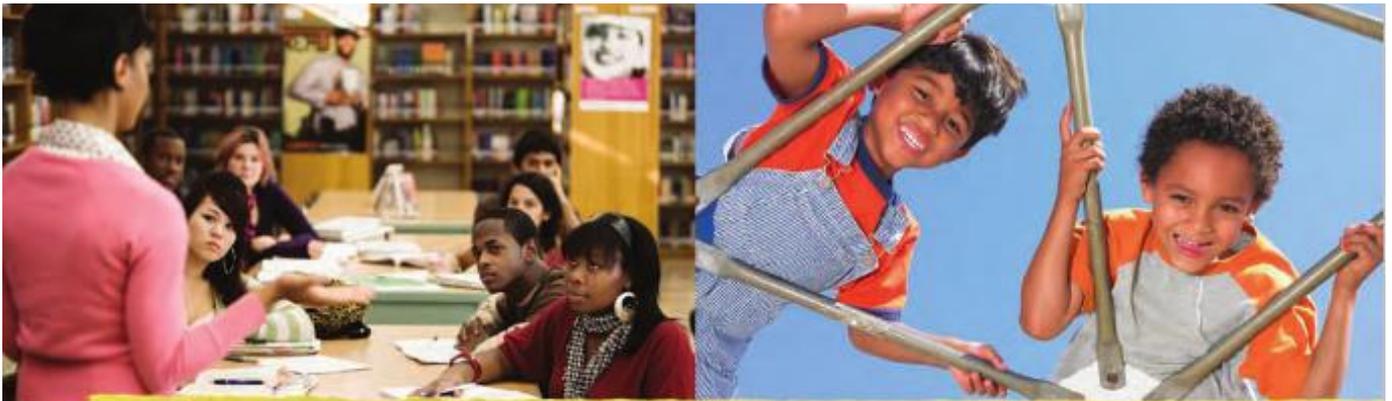
Student goes to the nurse at the beginning of class (PE, SH, Lunch) and picks up the form

Student gives form to PE staff and engages in activity as directed by PE staff

Students gets signature of PE staff and returns to the nurse at the end of class (last 10 minutes)

Nurse assesses student and informs student if he/she stays at current phase or moves to next phase

Appendix 5 – Teacher Package



A Fact Sheet for Teachers, Counselors, and School Professionals

**HEADS UP
SCHOOLS**

THE FACTS:

- * All concussions are serious.
- * Most concussions occur without loss of consciousness.
- * Recognition and proper response to concussions when they first occur can help aid recovery and prevent further injury, or even death.

What is a concussion?

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even what seems to be a mild bump to the head can be serious.

Children and adolescents are among those at greatest risk for concussion. The potential for a concussion is greatest during activities where collisions can occur, such as during physical education (PE) class, playground time, or school-based sports activities. However, concussions can happen any time a student's head comes into contact with a hard object, such as a floor, desk, or another student's head or body. Proper recognition and response to concussion can prevent further injury and help with recovery.

To download this fact sheet in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta hoja de información en español, por favor visite: www.cdc.gov/Concussion.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



What are the signs and symptoms of concussion?

The signs and symptoms of concussion can show up right after an injury or may not appear or be noticed until hours or days after the injury. Be alert for any of the following signs or symptoms. Also, watch for changes in how the student is acting or feeling, if symptoms are getting worse, or if the student just “doesn’t feel right.”



SIGNS OBSERVED BY TEACHERS AND SCHOOL PROFESSIONALS

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events *prior* to the hit, bump, or fall
- Can't recall events *after* the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Forgets class schedule or assignments

SYMPTOMS REPORTED BY THE STUDENT

Thinking/Remembering:

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling more slowed down
- Feeling sluggish, hazy, foggy, or groggy

Physical:

- Headache or “pressure” in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not “feel right”

Emotional:

- Irritable
- Sad
- More emotional than usual
- Nervous

Sleep*:

- Drowsy
- Sleeps *less* than usual
- Sleeps *more* than usual
- Has trouble falling asleep

**Only ask about sleep symptoms if the injury occurred on a prior day.*

What are concussion danger signs?

Be alert for symptoms that worsen over time. The student should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)



Children and teens with a concussion should NEVER return to sports or recreation activities on the same day the injury occurred. They should delay returning to their activities until a health care professional experienced in evaluating for concussion says they are symptom-free and it's OK to return to play. This means, until permitted, not returning to:

- Physical Education (PE) class,
- Sports practices or games, or
- Physical activity at recess.

For more information and tool kits for youth sports coaches and high school coaches, visit www.cdc.gov/Concussion.

How can I recognize a concussion?

Teachers and school counselors may be the first to notice changes in their students. The signs and symptoms can take time to appear and can become evident during concentration and learning activities in the classroom.

Send a student to the school nurse, or another professional designated to address health issues, if you notice or suspect that a student has:

1. Any kind of forceful blow to the head or to the body that results in rapid movement of the head,
-and-
2. Any change in the student's behavior, thinking, or physical functioning. (See the signs and symptoms of concussion.)

What do I need to know about my students returning to school after a concussion?

Supporting a student recovering from a concussion requires a collaborative approach among school professionals, health care providers, and parents, as s/he may need accommodations during recovery. If symptoms persist, a 504 meeting may be called. Section 504 Plans are implemented when students have a disability (temporary or permanent) that affects their performance in any manner.



What to look for after a concussion

When students return to school after a concussion, school professionals should watch for:

- Increased problems paying attention or concentrating
- Increased problems remembering or learning new information
- Longer time needed to complete tasks or assignments
- Difficulty organizing tasks
- Inappropriate or impulsive behavior during class
- Greater irritability
- Less ability to cope with stress or more emotional



Students who return to school after a concussion may need to:

- Take rest breaks as needed,
- Spend fewer hours at school,
- Be given more time to take tests or complete assignments,
- Receive help with schoolwork, and/or
- Reduce time spent on the computer, reading, or writing.

Services and accommodations for students may include speech-language therapy, environmental adaptations, curriculum modifications, and behavioral strategies.

Students may need to limit activities while they are recovering from a concussion. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games, may cause concussion symptoms (such as headache or tiredness) to reappear or get worse.

It is normal for students to feel frustrated, sad, and even angry because they cannot return to recreation or sports right away, or cannot keep up with their schoolwork. A student may also feel isolated from peers and social networks. Talk with the student about these issues and offer support and encouragement. As the student's symptoms decrease, the extra help or support can be removed gradually.



✳ For more information on concussion and to order additional materials for school professionals **FREE- OF-CHARGE**, visit: www.cdc.gov/Concussion.