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Concussion Management Overview

Concussions are both a medical and educational issue. Accommodations created by the school are based on an educational need that is caused by a medical issue. Changes to a student’s learning environment are not medical decisions, but are academic decisions.

The purpose of this document is to provide district personnel with information on concussion management in school settings and it provides guidance for developing an effective concussion management program including: prevention and safety; identification; diagnosis; post-concussion management; return to school; and guidelines for the concussion management team.

The approach to concussion management should include district staff vested in a student’s education. The student and family are central to the management plan. The groups involved in concussion management may include, but are not limited to:

1. The Academic Team will include, but is not limited to: the teacher/s, guidance counselor, school psychologist, and administrator.
2. The Medical Team will include, but is not limited to, the nurse, athletic trainer, and the physician.
3. The Athletic team will include, but is not limited to, the coach, the athletic director, and the physical education teacher.

Prevention and Safety

Protecting students from head injuries is one of the most important ways to prevent a concussion. In order to minimize the risk of concussion, the district shall ensure (where appropriate) education, proper equipment, and supervision is provided to staff, students, and parents/guardians.

It is important that students know the symptoms of a concussion and to inform the appropriate personnel, if they believe they have sustained a concussion.

Activities that present a higher than average risk for concussion include, but are not limited to: interscholastic athletics, intramural activities, physical education classes, and recess. Physical education curriculum shall emphasize safety practices, lessons on the need for safety, and the correct use of physical education equipment.

The athletic director shall ensure that all interscholastic competition rules are followed, appropriate safety equipment is used, and rules of sportsmanship are enforced. Physical education teachers and coaches should instruct and student athletics to refrain from initiating contact to another player with their head or to the head of another player.

Players shall be instructed on sport-specific safe body alignment and encouraged to be aware of what is going on around them. Proper instruction shall include the rules of the sport, defining unsportsmanlike conduct, and enforcing penalties for deliberate violations.
Identification

Any student who is observed to, or suspected of, suffering a significant blow to the head, has fallen from any height, or collides hard with another person or object, may have sustained a concussion. Symptoms of a concussion may appear immediately, become evident in a few hours, or evolve and worsen over a few days. Concussion may occur at places other than school. Therefore, staff members who observe a student displaying signs and/or symptoms of a concussion, or learn of a head injury from a student, should have the student accompanied to the school nurse. 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) until an evaluation may be completed by a medical provider.

Symptoms of a concussion include, but are not necessarily limited to:

- Amnesia
- 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 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
Diagnosis

The diagnosis of a concussion remains with the scope a medical provider. 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 medical provider. As student diagnosed with a concussion is not to be returned to athletic activities until the student has been assessed and cleared by a medical provider to be 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 physician in order to return to athletic activities in school.

Post-Concussion Management

Students who have been diagnosed with a concussion require both physical and cognitive rest. Private medical provider/school doctor orders for avoidance of cognitive and physical activity and graduated return to activity should be followed and monitored both at home and at school. The district should consult their identified concussion doctor if clarification is needed regarding a private medical provider’s orders, or in the absence of private medical provider orders. 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 questions of safety, a medical professional err on the side of caution and hold the athlete our for a game, the remainder of the season, or even a full year.

Cognitive Rest - requires that the student avoid participation in, or exposure to, activities that require concentration or mental stimulation including, but not limited to:

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

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.

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

- Ones 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 an increased heart rate or increased head pressure (e.g. straining or strength training)
Return to School Activities

A medical provider must clear the student to begin a graduated return to activities. If the district has concerns or questions about a private medical provider’s orders, the district concussion doctor/designee should contact the provider to discuss and clarify. The district’s concussion doctor has the final authority to clear the student/s to participate or return to activities.

Students should be monitored by the district staff daily following each activity, physical or cognitive, for any return of signs and symptoms to the appropriate staff member (e.g. school nurse, athletic trainer, administrators). A student should only move to the next level of activity if they remain symptom free at the current activity level. Return to activity should occur with the introduction of one new activity at designated time frames. If any post-concussion symptoms return, the student should drop back to the previous level of activity, then re-attempt the new activity after a designated time frame. A more gradual progression should be considered based on individual circumstances and a medical provider’s/district concussion doctor’s orders and recommendations.

Sample return to physical activity protocol based on the Zurich Progressive Exertion Protocol:


Phase 1 – low impact, non-strenuous, light aerobic activity such as walking or riding a stationary bike. If tolerated without return of symptoms over a designated time frame 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 over a designated time frame proceed to:

Phase 3 – Sport specific non-contact activity. Low resistance weight training with a spotter. If tolerated without return of symptoms over a designated time frame proceed to:

Phase 4 – Sport specific activity, non-contact drills. Higher resistance weight training with a spotter. If tolerated without return of symptoms over a designated time frame proceed to:

Phase 5 – Full contact training drills and intense aerobic activity. If tolerated without return of symptoms over a designated time frame proceed to:

Phase 6 – Return to full activities without restrictions.
Concussion Management Team

Concussion management requires a coordinated, collective effort among district personnel along with parents/guardians to monitor an individual student’s progress. The concussion management team should advocate for academic and physical accommodations as appropriate, to reduce delays in a student’s ability to return to full activities. The district will use a concussion management team approach to achieve these goals. The concussion management team will oversee and implement the district’s concussion policy and protocol. The concussion management team and district staff in collaboration with the medical provider, the student, and the student’s family play a substantial role in assisting the student to recovery. The primary focus of all members of the team should be the student’s health and recovery.

The concussion management process begins when the district receives notification of the injury. The concussion management team, with members identified by the specific students and needs, will be assembled so the concussion management process may begin.
### Responsibilities of Team Members

<table>
<thead>
<tr>
<th>Team Member</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Identify a Concussion Management Leader (CML)</td>
</tr>
<tr>
<td>Student</td>
<td>To clearly and honestly communicate their symptoms, academic difficulties and feelings</td>
</tr>
<tr>
<td></td>
<td>To carry out any duties assigned by other team members</td>
</tr>
<tr>
<td>Parent/Guardian</td>
<td>To submit all physician notes and instructions to the school in a timely manner</td>
</tr>
<tr>
<td></td>
<td>To help the student maintain compliance with any medical and/or academic recommendations given to promote recovery</td>
</tr>
<tr>
<td><strong>Academic Team</strong></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>To help the student get the best education possible given the circumstances and to follow recommended academic accommodations</td>
</tr>
<tr>
<td>Guidance Counselor</td>
<td>To help create and disseminate academic accommodations to the student’s teachers</td>
</tr>
<tr>
<td>School Psychologist</td>
<td>To be the consultant for prolonged or complicated cases where long-term accommodations or more extensive assessment and educational plans may be necessary</td>
</tr>
<tr>
<td>Administrator</td>
<td>To direct and oversee the management plan and trouble shoot problems</td>
</tr>
<tr>
<td><strong>Medical Team</strong></td>
<td></td>
</tr>
<tr>
<td>Athletic Trainer</td>
<td>To evaluate possible injuries and make referrals for student-athletes</td>
</tr>
<tr>
<td></td>
<td>To monitor symptoms and help coordinate and supervise a student-athletes safe return to play</td>
</tr>
<tr>
<td></td>
<td>To communicate with the school about the student’s progress</td>
</tr>
<tr>
<td>Physician</td>
<td>To evaluate, diagnose and manage the student’s injury, and to direct medical and academic recommendations</td>
</tr>
<tr>
<td>School Nurse</td>
<td>To monitor in-school symptoms and health status changes</td>
</tr>
<tr>
<td></td>
<td>To help determine if it is appropriate for the student to be in the school or if the student need any health-related accommodations</td>
</tr>
<tr>
<td><strong>Athletic Team</strong></td>
<td></td>
</tr>
<tr>
<td>Athletic Director</td>
<td>To oversee the athletic department’s concussion management plan, including but not limited to: equipment management, policies, coach/athlete/parent education.</td>
</tr>
<tr>
<td>Coach/Physical Education Teachers</td>
<td>To recognize concussion symptoms and remove a potentially injured player from practice or competition</td>
</tr>
<tr>
<td></td>
<td>To receive communication from health care providers, parent/guardian and school about readiness to return to play</td>
</tr>
<tr>
<td></td>
<td>To communicate with the school about the student’s progress</td>
</tr>
</tbody>
</table>

Remember, school systems and staffing varies by building. The responsibilities of team members may overlap or be assigned to others.
### Academic Concussion Management Process

<table>
<thead>
<tr>
<th>Process</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>Concussion reported</td>
<td>Injury reported to the CML as soon as possible</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>Contact student and family</td>
<td>Meet with student upon student’s return to school</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
</tr>
<tr>
<td>Assess medical needs</td>
<td>Has the student seen a physician or athletic trainer?</td>
</tr>
<tr>
<td></td>
<td>Is the documentation?</td>
</tr>
<tr>
<td></td>
<td>Assess symptoms and make attendance decision-</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td></td>
</tr>
<tr>
<td>Assess academic needs</td>
<td>Specify general accommodations supplied by health care provider</td>
</tr>
<tr>
<td></td>
<td>Assess academic needs and create accommodations</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td></td>
</tr>
<tr>
<td>Distribute accommodations</td>
<td>Contact family with relevant updates on student’s needs and plan</td>
</tr>
<tr>
<td></td>
<td>Update athletic trainer and coach (if applicable)</td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td></td>
</tr>
<tr>
<td>Determine re-assessment</td>
<td>Gain feedback from each team</td>
</tr>
<tr>
<td></td>
<td>Decide when to reassess medial and academic needs</td>
</tr>
</tbody>
</table>

Information about student’s health status and academic career is protected under the Health Insurance Portability Act (HIPPA) and the Family Educational rights and Privacy Act (FERPA). The administration should outline the appropriate forms of communication and ways to communicate a student’s health status: through email, telephone, or in person, being sure to consider the advantages/disadvantages.
Blank One-Leader Model

Step 1: Concussion reported to CML.
Designated CML: ________________________

Step 2: CML contacts student and family.
Meets with student upon student's return to school

Step 3: CML assesses medical needs.
Discusses with appointed medical staff member, ________________.

Step 4: CML assess academic needs.
Discusses with appointed academic staff member, ________________.

Step 5: CML distributes accommodations to teachers.
CML also contacts ML and family, (and coach and athletic trainer) with relevant information.

Step 6: CML discusses plans for re-assessment with school nurse and academic staff.
Blank Two-Leader Model

Step 1: Concussion reported to CML.
Designated CML: ________________________

Step 2: CML contacts student and family.
Meets with student upon student's return to school

Step 3: ____________________________ (ML) assesses medical needs.
Discusses and communicates with school nurse.

Step 4: ____________________________ (AL) assess academic needs.

Step 5: ____________________________ distributes accommodations to teachers.
AL also contacts ML and family, (and coach and athletic director) with relevant information.

Step 6: ML and AL discuss plans for re-assessment
Concussion Symptom Log

Your child/student either has a concussion or is suspected of having a concussion. To better track the concussion symptoms, please complete this log daily using the following scale. Please use only one number for each symptom. This is a useful tool for both medical and educational professionals to use in making accommodations for both academic and athletic activities. If there are any questions, please feel free to contact Nationwide Children’s Sports Medicine at (614) 355-6000 or visit our website at NationwideChildrens.org/Sports-Medicine.

<table>
<thead>
<tr>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date:</th>
<th>Initial symptoms</th>
<th>Current symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Headache

Neck pain

Numbness in extremities

Weakness in extremities

Nausea

Vomiting

Balance Problems

Dizziness

Fatigue

Trouble falling asleep

Sleeping more than usual

Sleeping less than usual

Drowsiness

Sensitivity to light

Sensitivity to noise

Irritability

Sadness

Nervousness

Feeling more emotional

Feeling slowed down

Difficulty concentrating

Feeling mentally foggy

Difficulty concentrating

Difficulty remembering

**Total Symptom Score**
Classroom Concussion Assessment Form

Name: _________________________________  Date: _____________  Time: ____________

**Instructions to the Student:**
Read the symptoms in the left-hand column. For each symptom, circle one answer in the center column. Be honest and do not skip any questions. Then, answer the question at the bottom of this page. Give the sheet to your educator once complete.

**Instructions to the Educator:**
Use the student’s responses to the following questions to devise in-class, symptom-based accommodations. Refer back to Concussions in the Classroom for more specific explanations of the accommodations.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Circle ONE in each row</th>
<th>Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>none mild moderate severe</td>
<td>-Mild/moderate: Allow classroom participation</td>
</tr>
<tr>
<td>Dizziness/balance problems</td>
<td>none mild moderate severe</td>
<td>-Avoid symptom triggers</td>
</tr>
<tr>
<td>Feeling sick to stomach (nausea)</td>
<td>none mild moderate severe</td>
<td>-If severe, refer to nurse/parent</td>
</tr>
<tr>
<td>Tiredness/drowsiness</td>
<td>none mild moderate severe</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Circle ONE in each row</th>
<th>Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity to light</td>
<td>no yes</td>
<td>-Move away from windows</td>
</tr>
<tr>
<td>Sensitivity to noise</td>
<td>no yes</td>
<td>-Dim lights/draw shades</td>
</tr>
<tr>
<td>Feeling mentally foggy</td>
<td>no yes</td>
<td>-Allow sunglasses/hat in class</td>
</tr>
<tr>
<td>Difficulty concentrating on schoolwork</td>
<td>no yes</td>
<td>-Remove from loud environments</td>
</tr>
<tr>
<td>Difficulty paying attention to teacher</td>
<td>no yes</td>
<td>-Reduce classroom noise</td>
</tr>
<tr>
<td>Difficulty remembering</td>
<td>no yes</td>
<td>-Avoid headphones or loud music</td>
</tr>
<tr>
<td>Difficulty staying organized</td>
<td>no yes</td>
<td>-Give breaks between tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Simplify tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Shorten task duration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Give breaks between tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Front room seating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Work/test in quiet room</td>
</tr>
</tbody>
</table>

What tasks in school are most difficult for you? Please write specific examples.

____________________________________________________________________________________  
____________________________________________________________________________________  

12 | P a g e
The emphasis in managing a concussed student in the classroom is to allow the student to participate and learn without worsening symptoms (which may delay healing).

As the student improves, gradually increase demands on the brain by increasing either:

A. The amount of work  
B. The length of time spent on the work  
C. The type or difficulty of work

***IMPORTANT NOTE: Change only ONE of these things at a time.

Below is a decision-making flow chart of what to do if increasing cognitive demand worsens symptoms.
Wallenpaupack Area School District Concussion Clearance ■ NCHSAA Return to Play Form

This form is adapted from the Acute Concussion Evaluation (ACE) care plan on the CDC web site (http://www.cdc.gov/concussion/index.html) as well as the NCHSAA Concussion Return to Play Form. All medical providers are encouraged to review this site if they have questions regarding the latest information on the evaluation and care of the scholastic athlete following a concussion injury. Medical providers, please initial any recommendations you select.

Athlete’s Name ___________________________________________ Date of Birth __________________
School ____________________________________________ Team/Sport ___________________

HISTORY OF INJURY
Date of Injury __________________

Person Completing Form (circle one): Licensed Athletic Trainer | First Responder | Coach | Parent | Student

□ Please see attached information □ Please see further history on back of form

<table>
<thead>
<tr>
<th>Did the athlete have:</th>
<th>Circle one</th>
<th>Duration/Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of consciousness or unresponsiveness?</td>
<td>YES</td>
<td>Duration</td>
</tr>
<tr>
<td>Seizure or convulsive activity?</td>
<td>YES</td>
<td>Duration</td>
</tr>
<tr>
<td>Balance problems/unsteadiness?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Dizziness?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Headache?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Nausea?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Emotional Instability (abnormal laughing, crying, smiling, anger?)</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Confusion?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Difficulty concentrating?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Vision problems?</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
<tr>
<td>Other</td>
<td>YES</td>
<td>IF YES, HAS THIS RESOLVED? YES</td>
</tr>
</tbody>
</table>

SIGNATURE ___________________________ DATE __________________

MEDICAL PROVIDER RECOMMENDATIONS
This return to play (RTP) plan is based on today’s evaluation.

RETURN TO SPORTS

PLEASE NOTE

SCHOOL (ACADEMICS)

□ May return to school now □ May return to school on ___________ □ Out of school until follow-up visit

PHYSICAL EDUCATION

□ Do NOT return to PE class at this time □ May return to PE class

SPORTS

□ Do not return to sports practice or competition at this time.
□ May initiate gradual return to play plan (see example below)
□ May be advanced back to competition after phone conversation with attending physician
□ Must return to medical provider for final clearance to return to competition
□ Has completed gradual RTP progression without any recurrence of symptoms or problems and is cleared for full participation

Additional comments/instruction:

1. Athletes should not return to practice or play the same day that their head injury occurred.
2. Athletes should never return to play or practice if they still have ANY symptoms.
3. Athletes, be sure that your coach and /or athletic trainer are aware of your injury, symptoms, and has the contact information for the treating physician.

Physician Name (please print) ___________________________ MD or DO
Office Address ____________________________________________
Phone Number ____________________________________________
Signature (Required) ______________________________________
Date ____________________________________________________

A physician may delegate aspects of the RTP process to a licensed athletic trainer, nurse practitioner or physician assistant, and may work in collaboration with a licensed neuropsychologist in compliance with the Wallenpaupack Area School District Concussion Protocol.

Medical Provider Name (please print) ___________________________
NP, PA-C, LAT, Neuropsychologist (please circle one)
Office Address ____________________________________________
Phone Number ____________________________________________
Signature ________________________________________________
Date ____________________________________________________

Name and contact information of supervising/collaborating physician ____________________________________________________________
Name of Athlete: ______________________________________

Academic Recommendations
(to be completed by a medical provider)

Following concussion individuals need both cognitive and physical rest to allow for the best and quickest recovery. Activities such as reading, watching TV or movies, video games, working/playing on the computer and/or texting heavily stimulates the brain and can lead to prolonged symptom recovery. Therefore, immediately following a concussion mental rest is key. Student-athletes present a challenge as they will often have school the day following an injury. Healthcare providers need to consider if modifications to school activities should be made to help facilitate a more rapid recovery. Modifications that may be helpful follow:

Return to school with the following supports:

- Shortened day. Recommended ___ hours per day until (date) ______________
- Shortened classes (i.e. rest breaks during classes). Maximum class length ___ minutes
- Allow extra time to complete coursework/assignments and test.
- Lessen homework load to maximum nightly ___ minutes, no more than ___ min continuous.
- Lessen computer time to maximum ___ minutes, no more than ___ min continuous.
- No significant classroom or standardized testing at this time, as this does not reflect the patient’s true abilities.
- Check for the return of symptoms when doing activities that require a lot of attention or concentration.
- Take rest breaks during the day as needed.

Gradual Return to Play Plan

Once the athlete is completely symptom-free at rest, and has no symptoms with cognitive stress (i.e. reading or school work), a gradual return to play progression can be started. All players must complete a Return to Play Protocol that proceeds in a step-wise fashion with gradual, progressive stages. This begins with light aerobic exercise designed only to increase your heart rate (e.g. stationary cycle), then progresses to increasing heart rate with movement (e.g. running), then adds increased intensity and sport-specific movements requiring more levels of neuromuscular coordination and balance including non-contact drills and finally, full practice with controlled contact prior to final clearance to competition. Monitoring of acute signs/symptoms during the activity, and delayed symptoms at 24 hours post-activity should conducted. It is important that athletes pay careful attention to note any recurrence of symptoms (headache, dizziness, vision problems, lack of coordination, etc.) both during and in the minutes to hours after each stage. After supervised completion of each stage without recurrence of symptoms, athletes are advanced to the next stage of activity. An athlete should ONLY be progressed to the next stage if they do not experience any symptoms at the present level.

If their symptoms recur, they must stop and rest. Once symptom-free, the athlete returns to the previous stage of the protocol that they completed without recurrence of symptoms. If an athlete has to “re-start” twice, consultation with a healthcare provider is suggested. An example of a Return-To-Play protocol is found below:

<table>
<thead>
<tr>
<th>STAGE</th>
<th>EXERCISE</th>
<th>DATE</th>
<th>COMPLETED/COMMENTS</th>
<th>SUPERVISED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20-30 minutes of cardio activity: walking, stationary bike. Weightlifting at light intensity (no bench, no squat): low weight, high reps. Goal: 30-40% of maximum HR</td>
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<tr>
<td>2</td>
<td>30 minutes of cardio activity: jogging at medium pace. Sit-ups, push-ups, lunge walks x 25 each. Weightlifting at moderate intensity. Goal: 40-60% of maximum HR</td>
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<tr>
<td>3</td>
<td>30 minutes of cardio activity: running at fast pace. Sit-ups, push-ups, lunge walks x 50 each. Sport-specific agility drills in three planes of movement. Resume regular weightlifting routine. Goal: 60-80% of maximum HR</td>
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<tr>
<td>4*</td>
<td>Participate in non-contact practice drills. Warm-up and stretch x 10 minutes. Intense, non-contact, sport-specific agility drills x 60 minutes. Goal: 80-100% of maximum HR</td>
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<tr>
<td>5</td>
<td>Participate in controlled contact practice.</td>
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</tr>
<tr>
<td>6</td>
<td>Resume full participation in competition.</td>
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</tr>
</tbody>
</table>

*Consider consultation with collaborating physician regarding athlete’s progress prior to initiating contact at Stage 5
Resources

Nationwide Children’s Hospital
http://www.nationwidechildrens.org/concussions

Brain Injury Association of Pennsylvania
http://www.biapa.org/site/c.iuLZjbMMKrH/b.1760731/k.BD3E/Home.htm

BrainSteps
http://brainsteps.net/_orbs/about/index.aspx

Brain Injury Association of New York
http://brainsteps.net/_orbs/about/index.aspx

Center for Disease Control and Prevention
http://www.cdc.gov/headsup/index.html

Family doctor.org
http://www.cdc.gov/headsup/index.html

Guidelines for Concussion Management in the School Setting