**Sports Medicine Department**

Policy for the Evaluation and Management of Head Injuries

## I. Definition / Evaluation:

Any head injury should be classified as a "concussion" any time there is trauma to the head, face or neck of an athlete, or trauma to the body, which causes a whipping of the head, resulting in *any* one or more of the signs and/or symptoms listed below. There does NOT need to be a loss of consciousness in order to be classified as a concussion. It is important to note that a concussion or "mild traumatic brain injury" (MTBI*) is a metabolic injury affecting the brain chemistry and neurocognitive function; it is NOT a structural injury which would be detected on CT scan or MRI*. Therefore, referral to a hospital emergency department is not *necessarily* warranted in most cases of MTBI.

***Possible signs which may be observed following a concussion:***

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| Balance problems | Loss of consciousness |
| Nausea/vomiting | Slow, slurred speech |
| Abnormal or inappropriate emotions | Amnesia (memory loss) |
| Disorientation | Dazed appearance |
| Change in mental status | Sensitivity to light and/or noise |

***Possible symptoms or complaints following a concussion:***

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|---|---|
| Headache | Felling "Foggy" or "fuzzy" in the head |
| Dizziness | Lightheaded feeling |
| Feeling excessively tired or fatigued | Ringing in the ears |
| Double or blurred vision | Sensitivity to light and/or noise |
| Difficulty concentrating | Difficulty sleeping |
| Decreased ability to focus | Sleeping too much/drowsiness |

## II. Classification of Concussions

Concussions *used to be* graded or classified according to severity depending on which symptoms were present and how long those symptoms lasted. Such classification systems *are no longer used* because every head injury is different, and every athlete recovers at a different rate. Traditional grading scales were not based on scientific data, and they regarded every concussion the same, regardless of the age of the athlete. Presently, concussions are managed with an individualized approach based upon a number of factors, including, but not limited to the duration and resolution of symptoms, the age of the student-athlete, the number of previous concussions and the time elapsed since the last concussion.

## III. Management Guidelines

**A.** Initial management: If a concussion is detected or reported at the time that it is sustained, the student-athlete is to be removed from activity immediately. **In accordance to Pennsylvania state law, it is the policy of The Haverford School Sports Medicine staff that a student-athlete will NOT be permitted to return to activity (practice or a game) *on the same day* that an injury occurs resulting in any concussion symptoms (of any intensity, and any duration)**.

**B.** Academic management: Because rest (both physical and cognitive) is most important in the first 24 hours after a concussion, it is The Haverford School's policy that a student-athlete **should stay home from school for *at least the first day* after the concussion occurs**. In some cases, a student-athlete may require more time out of school, or he may require modifications to his academic demands, such as allowing extra time for assignments and exams, and minimizing the amount of reading and homework that is required. This will be determined on a case-by-case basis, and will be communicated by the athletic trainers through the concussion email group. See section IV (below) for a more detailed explanation of the Return-to-Learn guidelines.

**C.** Athletic Management: "Post Concussion Syndrome" (PCS), an abnormally long recovery time, can occur if an athlete continues to engage in physical activity, or excessive mental activity while the brain is still recovering from the initial concussion. If a student-athlete suffers a concussion during any athletic event (game or practice) he must be removed from the event immediately, and referred to one of the athletic trainers. As long as the athlete is experiencing any concussion symptoms, it is recommended that he NOT engage in any physical exertion, including running, weight lifting, and Physical Education classes, until directed to do so by his physician and/or one of the athletic trainers. Overexertion can impede the brain chemistry from returning to normal, and delay the recovery; however, current research is suggesting that light, aerobic exercise (supervised by the athletic trainers) can help with the student-athlete's recovery. See section V (below) for a more detailed explanation of the Return-to-Play guidelines.

**D.** Physician Referral: Because physical rest and mental rest are the primary treatments in the first few days of a concussion, it is not always necessary to be seen by a physician *immediately* after a concussion. A student-athlete's family may choose to see a physician at any time after a concussion is sustained. However, referral to a physician will only be *required* by the Sports Medicine Department in cases where there is loss of consciousness, amnesia at any time after the injury, symptoms that linger for a period longer than 2 days, or if the athlete has a history of prior concussions. Notes from a physician indicating clearance for return-to-play will only be accepted from a physician on the Sports Medicine Department's Physician Referral list (listed below in section IX), or by another physician known to be trained in the management of sport-related concussion. The Haverford School sports medicine staff is supervised by Dr. Bradley Smith, M.D. of The Rothman Institute. Therefore, those concussions that definitively clear up by the following day can be managed by the athletic trainers who are operating under the supervision of, and in communication with, Dr. Smith. However, even in these cases, the standard return-to-play guidelines (outlined below in section V) will be followed.

## IV. Return-to-Learn guidelines

Current research and trends in concussion management are pointing toward a faster return to academics than was previously employed. Proper rest in the first 24 hours after the injury is most critical; however, after the initial 24 hours of physical and cognitive rest, students will be encouraged to return to school attendance and academic activity as soon as tolerated. If, after the first day of rest following a concussion, the student is not reporting any improvement in his condition, he should remain home for another day and an appointment should be scheduled with a physician as described below in section VIII. At this point, the student is encouraged to attempt some schoolwork from home for as long as he is able to tolerate, until the point at which his symptoms are made worse. If the student is able to tolerate approximately an hour of academic work with no significant increase in symptoms, he should return to school, and attempt as much work as he can tolerate, without significant increase in symptoms. Once the student is seen by a physician, that physician may issue formal academic accommodations; however, in the interim, general accommodations will be in place, as needed. These general accommodations may include postponing tests/quizzes if the student is not prepared, shortened homework assignments, providing written class notes ahead of time, limiting computer work, etc. Each time a student is seen by a physician, and new accommodations are given, they will be relayed to the concussion group (see section VIII).

If a student's concussion does not resolve within 4-6 weeks, and he has missed enough assignments and assessments to affect his grade, the division head will meet with the student's advisor and teachers to develop a plan for making up work, and assessing the student's progress and readiness to matriculate further. This will be done on a case-by-case basis, as every case will vary depending on several factors.

## V. Return-to-Play (RTP) Guidelines

A. *What is the RTP process?* Below is the commonly accepted progression for returning to sports. Each sport will have its own unique demands, and therefore the RTP plan will be slightly different for each sport. Below are the general guidelines to be followed at the direction of The Haverford School athletic trainers who will customize the plan for each sport.

**Stage 1**: *No Activity*
**Stage 2**: *Light aerobic exercise* (e.g., stationary bicycle)
- 10-20 minutes, light resistance, low speed (<70% of maximum heart rate)

**Stage 3**: *Individual, Sport-Specific training* (e.g., running, skating)
- Sport-specific drills (individual or with one partner, NON-contact)
- Throwing/catching, shooting on goal/basket, running, dribbling and shooting baskets/lay-ups, skating with stick/puck handling drills, volleying
- Agility drills

**Stage 4**: ***NON****-contact practice/drills* with team. This stage consists of anything that the student-athlete can do in practice without the risk of contact or collision. Student-athletes may also begin resistance (weight) training in this stage
**Stage 5**: ***FULL****-contact, full-intensity practice* with team
**Stage 6**: *Full-contact game play*

**Student-athletes will only complete one stage per day. If ANY symptoms return, STOP activity for that day, and when symptoms subside, return to the previous stage on the next day.**

B. *Why such a long process?* Once a concussion has resolved, the student-athlete may begin to work toward returning to his sport. This is never a "red light/green light" decision where the student-athlete is allowed to go right back into his sport at full intensity and full contact. This must be a gradual process to make sure that he is able to handle the physical exertion as well as the visual, vestibular, balance and coordination demands of the sport. Following a concussion, a student-athlete must meet the following criteria before he is able to begin to work toward getting back into sports:
    1. Clearance to begin RTP from a physician trained in concussion management
    2. He has returned to full days in school with no return of symptoms for an entire day
    3. He is able to handle full academic workload with no accommodations, and no return of symptoms
    4. If an ImPACT test baseline has been established, he must show a satisfactory return to baseline status on a post-injury test
C. *Who developed this process?* All of these concussion-management guidelines were developed, and agreed upon in a consensus statement by the 5th International Conference on Concussion in Sport, held in Berlin, October 2016.

## VI. Concussion education

In accordance with the Youth Sports Safety Act, passed by the Pennsylvania state legislature in 2012, all student-athletes, coaches and parents must undergo yearly education regarding concussions, and their management. This education consists of information provided by the CDC.

## VII. Neurocognitive testing

The Haverford School Sports Medicine staff utilizes a neurocognitive testing software program known as "ImPACT". This is a computer-based test which assesses neurocognitive function such as immediate and delayed memory, reaction time, and motor processing speed. We strive to have every athlete on an upper school, contact-sport team take a baseline test in the preseason period, when he is healthy. All athletes who participate in football, soccer, water polo, basketball, wrestling, ice hockey, lacrosse and baseball will be required to take a baseline test during their first season of participation during their 9th and 11th grade years, or upon transferring into the upper school. In addition, all middle school students will be tested each year in a "reading and prep" period during the school day. If a concussion does occur, the athlete will take a post-injury test within 1-3 days after the injury, and again prior to returning to play (if the first post-injury test is not back to baseline), or at the direction of the physician. The results of the post-injury test will be compared to the baseline test to help determine if the athlete is ready to begin the Return-to-Play progression, or to progress to the latter stages of the progression if it has already been started. Test results can be emailed or faxed to the athlete's physician when necessary.

*For more information about this protocol, consult the "Consensus statement on concussion in sport from the 5th International Conference on Concussion in Sport held in Berlin, October, 2016"*

**VIII. Communication Guidelines**

When the athletic trainers are notified of a concussion (or suspected concussion), they will notify the parents, and arrange for transportation home if needed. On that same day, we will notify the concussion communication team which consists of the student's advisor, division head, administrative assistant to the division head, assistant head/dean of division, coach, school nurses, and any specific teachers that are known. It is requested that the student's advisor then alert the individual teachers that the injury has occurred and that the student will/may be out of school for at least a day. The athletic trainers will follow-up with the parents the next day. As new information is made available, the athletic trainers will communicate to the above-mentioned members of the concussion communication team.

**IX. Concussion Physician Referral List**

Not all physicians are up-to-date on current concussion-management guidelines. Therefore, any student who is referred to a physician for evaluation/consultation should see a physician with specific training in concussion management. Below are the physicians with whom the Haverford School athletic trainers have relationships, and who frequently see Haverford School student-athletes. This is not an exhaustive list, but simply a list of suggestions. If a student-athlete has a note from a physician with clearance and/or instructions that are not consistent with the Berlin, 2016 consensus statement guidelines, the athletic trainers will revert to the Berlin guidelines.

Dr. Brad (B.J.) Smith, M.D.
Rothman Institute, Lankenau and Limerick
1.800.321.9999

Dr. Kevin Walsh, M.D.
Dr. Keli Donnelly, D.O.
Premier Orthopedics and Sports Medicine
Haverford, PA
610.520.6170

Dr. Christina Master, M.D.
Dr. Matthew Grady, M.D.
Dr. Brian Vernau, M.D.
C.H.O.P.
King of Prussia, Exton, Chalfont, Glen Mills
1.800.879.2467

Dr. Steven Stasche, M.D.
Dr. Rob Franks, M.D.
Dr. Mark Harwood, M.D.
Rothman Institute
Bryn Mawr, Newtown Square, Philadelphia
Non-surgical Sports medicine, Concussions
1.800.321.9999

Dr. Steven Collina, M.D.
Dr. David Webner, M.D.
HealthPlex Sports Medicine
Springfield, PA
Non-surgical Sports medicine, Concussions
610.328.8830

Dr. Matthew Lewullis, D.O.
Penn Medicine at Valley Forge
Non-surgical Sports medicine, Concussions
610.576.7700