

Sports Concussion Management Guidelines

Natick Public Schools

Purpose: Use of these guidelines is intended to minimize the effects of sports concussion injuries for student athletes at NHS. A comprehensive approach will be used. This involves education of athletes, coaches, parents, school personnel, and the supervision and management of an injured student during a concussion recovery period. Baseline neuropsychological testing of contact sport athletes, use of a formalized sideline assessment by the athletic trainer, follow-up neuropsychological testing of injured athletes, and medical referral and return to participation are included. Although every concussion is different, standardized guidelines for monitoring and management of concussed athletes is desirable to effect the most inclusive intervention, to monitor recovery, reduce complications, and reduce the risk of repeat brain injury of concussed athletes.

Guidelines:

1. An educational seminar about sports concussion will be held at the beginning of the school year for NHS Parents and Student Athletes. The seminar will include information about the expected frequency of concussions in sports, typical symptoms, the role of computerized neuropsychological testing and formal sideline assessment, and the danger of sports participation before recovery is complete.
2. All NHS Coaches have taken and successfully passed the NFHS (National Federation of High Schools) "Concussion in Sports – What You Need to Know" on line course. The passing of this course is mandated by the MIAA (Massachusetts Interscholastic Athletic Association). This mandate goes into effect on November 29th, 2010. The NHS Coaching Staff has registered the confirmation receipt received after passing this course with the Athletic Director in the Athletic Office.
3. The NHS Faculty will be asked to read Dr. Neal McGrath's October publication in the Journal of Athletic Training, entitled "Supporting the Student Athlete's Return to the Classroom after a Sports Related Concussion". The NHS Faculty will then have to sign off that they have read Dr. McGrath's article. All NHS teachers will have access to the NFHS "Concussion in Sports..." on line course through the Natick Public Schools website.
4. All athletes from each sport identified as having a significant level of risk for head trauma will take baseline computerized neuropsychological testing (ImPACT) prior to the start of contact activity in their sport. These sports shall include at least: football, soccer, diving, cheerleading, alpine skiing, gymnastics, ice hockey, wrestling, basketball, and lacrosse.

5. Athletes from each of these sports will have baseline ImPACT testing at least once every two years. Athletes will be required to repeat baseline testing each year if they meet any of the following criteria:
 - a. a concussion injury has occurred within the previous two years
 - b. there is a history of two or more concussions,
 - c. there is any history of moderate to severe brain injury, or
 - d. there is a history of seizures, cranial surgery, or other neurological disorder

6. Definitions
 - a. Initial description for concussion will be that of the American Academy of Neurology:
 - i. GRADE I (MILD)
 1. No loss of consciousness
 2. Transient confusion
 3. Symptoms or abnormalities clear in less than 15 minutes
 - ii. GRADE II (MODERATE)
 1. No loss of consciousness
 2. Symptoms or abnormalities last more than 15 minutes
 - iii. GRADE III (SEVERE)
 1. Any loss of consciousness, either brief (seconds) or prolonged (minutes)

7. Any participant who suffers head injury with loss of consciousness (Grade III concussion), shall be evacuated using EMS for immediate evaluation at a local Hospital Emergency Department. Suspected Grade I and II concussion injuries may also be evacuated dependent upon sideline evaluation. The Natick High School Licensed Athletic Trainer (LAT) is trained to administer a formal sideline concussion assessment for use at practices and contests. Coaches send any athlete suspected of sustaining a concussion (whether it is incurred during sports or otherwise) to the LAT for assessment and will not return athletes to play in practices or contests unless the athlete has been “cleared” by the LAT. If a trained LAT is not available at a practice or contest, coaches will hold any athlete suspected of having a concussion out of participation until evaluated by an LAT in these guidelines.

8. Any athlete suspected of having concussion symptoms, either through sideline assessment, by later report from an athlete, coach, or parent, or by observation by the LAT will not be allowed to leave a venue without a responsible adult to supervise him/her. The Metro West Concussion

Home Care Pamphlet will be explained and a copy given. The injured athlete will report to the LAT daily for follow-up review of signs and symptoms. ***The LAT will notify the Consulting Neuropsychologist (CN), the Head Coach, the School Nurse, The Team Physician and the Athletic Director of the injury by email. The Athletic Director will notify the Guidance Department and the School Administration. The Guidance Counselor of the injured athlete will coordinate with the School Nurse, the student athlete and family, the student athlete's teachers, and the CN to ensure that the proper academic modifications are explained to all parties involved and are properly administered and followed until the injured athlete is cleared to resume standard operating procedures in the classroom.*** The injured athlete will take a follow-up ImPACT test administered by the LAT. This first post-injury test will routinely be taken about three days after the injury or, if more than 3 days have elapsed, as soon as possible.

9. The injured athlete will be advised to avoid physical exertion and will not be allowed to participate in any NHS team sports activities involving exertion (other than flexibility) or physical contact while any concussion symptoms persist.
10. Results of each post-injury ImPACT test will be emailed to the CN for review. The CN and LAT will then communicate by phone and/or email regarding the athlete's injury status and consult the Team Physician and designated personal care physician during the athlete's recovery.
11. Once the student's concussion symptoms have subsided, ImPACT testing will be repeated to check for return of cognitive functioning to the athlete's baseline level at rest.
12. Once the athlete's ImPACT test is judged to be returned to baseline at rest by the CN, the LAT will have the student repeat ImPACT testing following a physical exertion session that includes 20 minutes of aerobic exercise at 85% of maximal age-adjusted heart rate $[(\text{Age} - 220) \times .85]$ followed by an anaerobic bout of 15 jumping jacks, 15 sit-ups, and 15 pushups. This post-exercise ImPACT test is used to determine whether the athlete's return to baseline performance on ImPACT remains stable with the challenge of increased cardiovascular activity.
13. If the athlete's performance on ImPACT after exertion remains at baseline, he/she will then need to be cleared by the LAT for a graduated return to regular contact sports activity. The athlete must be at least seven days symptom-free and at ImPACT baseline after exertion challenge before return to exposure of contact sports. The LAT may also require clearance by the athlete's parents and personal physician in some cases. No injured athlete may return to regular full-contact activity after

a concussion injury without receiving medical clearance from the team physician.

14. The LAT will advise the athlete and his/her coach regarding steps to be taken over the next few days, starting with aerobic exercise only, then light sports maneuvers without contact, then light contact, then full contact.

If concussion symptoms return at any point during these steps, the athlete and coach are to report symptoms to the LAT for re-evaluation. Athletes, who have recurrence of concussion symptoms during this progression of activities will be rested for another week, then repeat ImPACT testing as advised by the CN. ***Any recurrence of signs and symptoms will be reported to the CN and Team Physician.***

15. Once an athlete has been cleared to return to regular sports participation, the LAT will notify the Head Coach, School Nurse, and Athletic Director by email. The Athletic Director will notify the Guidance Department and Administration.
16. Management and return to play decisions regarding athletes who have had two concussions in a calendar year will be considered on an individual basis by the NHS sports medicine staff.
17. A third concussion in the same season may result in ending athlete participation for the season. Re-entry into NHS participation will be considered on an individual basis by the NHS sports medicine staff with a conservative philosophy. Repeat Grade III concussion will result in a one-year medical disqualification from contact sports.
18. The Athletic Director will be informed by the LAT, coaches, or CN of any cases involving departure from the above-listed guidelines.
19. Athletes who show extended recovery periods (generally 6 weeks or more) will be considered for graduated exercise training as deemed appropriate by the LAT, CN and Team Physician, and as informed by ongoing research and clinical practice guidelines in concussion management.

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