



# NESHAMINY HIGH SCHOOL ATHLETIC TRAINING

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## Concussion/Traumatic Brain Injury Protocol

Neshaminy School District recognizes that head injuries, particularly sport-induced concussions, pose a significant health risk for those students participating in secondary school athletics. Consequently, The Neshaminy School District has implemented policies and procedures to assess and identify those student-athletes who have suffered a concussion through School Board Policy 123.1.

These policies and procedures are directed and overseen by the team physician for Neshaminy High School. The Team Physician or designee has final say over all return-to-play decisions. The following components have been identified, by multiple authorities on concussion as a recommended best practice for a Concussion / Traumatic Brain Injury Management Plan.

### What is a Concussion?

- Concussions are the most common form of head injury suffered by athletes. Due to the complexity of the injury and ever-growing research, a unanimous definition of “concussion” does not exist. A concussion can be caused by a direct or indirect hit to the head or body and can result in a disturbance and/or impairment in neurologic function. When an athlete suffers a concussion, the brain suddenly shifts or shakes inside the skull and can knock against the skull’s bony surface. A hard hit to the body can result in an acceleration and/or deceleration injury when the brain brushes against bony protuberances inside the skull. The recovery period from this trauma is uncertain and can vary widely from individual to individual. However, it has been established that the adolescent brain takes longer to recover from concussion than a fully developed adult brain.

Following a concussion, the athlete may experience a variety of symptoms. Most concussions occur without a loss of consciousness; in fact, loss of consciousness occurs in less than 10% of concussions. It is important to remember that some symptoms may appear right away, and some may be delayed for several hours to days. Symptoms, as well as symptom severity, may differ between individuals. However, a combination of symptoms typically occurs.

### Some Signs and Symptoms:

- Signs:
  - Inappropriate playing behavior
  - Decreased playing ability.
  - Inability to perform daily activities.
  - Reduced attention
  - Cognitive and memory dysfunction
  - Sleep disturbances
  - Personality change
  - Vacant stare
  - Unsteadiness of gait
  - Slurred/incoherent speech.
- Symptoms:
  - Difficulty concentrating
  - Nausea/vomiting
  - Dizziness
  - Confusion
  - Fatigue
  - Light headedness
  - Headaches
  - Irritability
  - Disorientation
  - Feeling of being stunned
  - Depression
  - Ringing in the ears
  - Loss of consciousness

#### Notification of Injury/Symptoms:

- Because of the serious nature of this injury and potentially dangerous outcomes of premature return to activity, including lifelong disability or death, concussions need to be recognized and diagnosed as soon as possible. It is required that student-athletes be truthful and forthcoming about their symptoms as soon as they are present. If/when he or she is diagnosed with a concussion, the student-athlete must report symptoms each day until he or she is cleared for full activity by the Team Physician or designee. In compliance with the Pennsylvania Safety in Youth Sports law, if a coach suspects that a student athlete has sustained a concussion, that athlete must be removed from activity and not returned to activity until cleared by an appropriate medical professional. Failure of a coach to do so will result in dismissal from coaching responsibilities.

#### Concussion Education:

- In compliance with the Pennsylvania Safety in Youth Sports law, student-athletes will be annually presented with educational materials that provide information about the mechanisms of head injury, as well as the signs and symptoms of a concussion. Concussion education materials and presentations will be made available to parents of student athletes. In compliance with Pennsylvania Safety in Youth Sports law, and P.I.A.A. regulations, it will be required that all student athletes and parents sign a concussion statement acknowledging their understanding of the risks of concussion and accepting the responsibility for truthfully reporting of his or her injuries and illnesses, including signs and symptoms of a concussion.
- Additionally, each coach (including volunteer coaches) involved with the Neshaminy School District will be required to undergo concussion education yearly and will be required to provide documentation of completion. This is required by the Pennsylvania Safety in Youth Sports law and will be administered by the athletic director's office.

#### Yearly Baseline Testing:

- A baseline cognitive assessment, in the form of the ImPACT software, will be performed on student-athletes in contact and collision sports at the high school level. These will include baseball, basketball, cheerleading, field hockey, football, lacrosse, soccer, softball, and volleyball, and must be completed before being permitted to participate in their competitive season.

#### Recognition, Evaluation and Confirmation:

- When a student-athlete shows any signs, symptoms, or behaviors consistent with a concussion, the athlete shall be immediately removed from athletic participation until a thorough sideline head injury assessment can be performed by the Team Physician and/or staff Certified Athletic Trainer. This is mandatory to be in compliance with the Pennsylvania Safety in Youth Sports law.
  - o A Sideline head injury assessment to determine the presence of a concussion will include:
    - Head Injury Initial Evaluation Form
    - Balance/coordination testing
    - Eye tracking
    - Symptom evaluation
- The Team Physician and/or staff Certified Athletic Trainer should suspect a concussion if any concussive symptoms are detected after a blow to the head or any other force that could potentially lead to a traumatic brain injury. The Neshaminy Head Injury Sideline Assessment tool should be used to assist in determining the presence of a concussion. In light of the serious nature of concussion a conservative approach to assessing concussion will be employed. An athlete determined to have a possible concussion will result in removal from athletic participation for further evaluation at a later time. This follow-up evaluation will include a post-injury screening on the ImPACT software. If a staff Certified Athletic Trainer determines that a student-athlete has or may have a concussion, the staff Certified Athletic Trainer must report that fact to the student-athlete's head coach, parent or guardian, and the Team Physician. **The student-athlete must be evaluated by the Team Physician and/or appropriate qualified medical personnel acceptable to the Team Physician as soon after the concussion as is practical.**

#### Same Day Return-to-Play:

- A student-athlete diagnosed with a possible concussion shall be withheld from competition and practice and will not return to any athletic activity for the remainder of that day and/or until cleared by the Team Physician and/or appropriate qualified medical personnel acceptable to the Team Physician.

#### Referrals:

- Upon removal from athletic participation, the student-athlete will receive serial monitoring (approximately every 5 minutes) for signs of deterioration which can cease when the student-athlete stabilizes and improves or in the event the student-athlete's condition warrants a referral according to the guidelines set forth herein.

#### On-the-Field Immediate Referral:

- In the event that the student-athlete shows signs of deterioration from the status originally assessed on the field, an emergency off the field assessment is required and subsequent immediate referral to an appropriate emergency treatment facility is warranted with any of the following findings:
  - o Deterioration of neurological signs such as motor, sensory and cranial nerve deficits subsequent to initial on field assessment.
  - o Documented loss of consciousness
  - o Deteriorating level of consciousness
  - o Persistent vomiting
  - o Post-concussion symptoms that worsen.

#### Non-Immediate Referral:

- All student-athletes who have been diagnosed with a concussion will be evaluated by the Team Physician or designee, or Family Physician under the direction of the team physician prior to return to unrestricted activity.

#### Follow-Up Care:

- In the event of a concussion, follow-up care and proper education is critical. Due to the necessity of serial monitoring for deterioration of symptoms, the student-athlete will be released under the care of a parent or guardian with a copy of the Neshaminy School District Injury Form. Pertinent information for follow-up care is outlined on this form.

#### Subsequent Testing:

- Concussed student-athletes will be assessed periodically, via the ImPACT software until released by the Team Physician, or another physician current in concussion care protocols. When possible, student athletes will be given a post-injury test within 48 hours of a concussion episode. The athlete will again be tested once they report asymptomatic and again every 48-72 hours until their scores are within statistical baseline scores.

#### Return to Play Guidelines:

- Return-to-play is the process of deciding when an injured or ill student-athlete may safely return to practice or competition. The Team Physician has ultimate authority determining return to play status. Therefore, in instances where the Team Physician is in disagreement with the Family Physician on return to play status, the Team Physician determination will be followed.
- When an asymptomatic status has been established and neurocognitive scoring has returned to the baseline level, a progression will be utilized for return to play. The progression is a step-by-step procedure where an asymptomatic level is maintained as functional exercise is slowly added to the activity level. In severe cases progression to each subsequent stage occurs roughly every 24 hours, based on each individual's status. Progressions are individualized; however, no athlete may return to competition until completing an activity progression. The student-athlete may not progress to the succeeding step until they are completely symptom free in the current step. The staff Certified Athletic Trainer will be in direct contact with the Team Physician

while progressing the student-athlete through the program. Only the Team Physician or designee under the direct supervision of the team physician can give the athlete clearance to return to athletic participation. While the Family Doctor may indicate that the athlete is ready to begin the progression, the sports medicine team will determine when the progression has been completed in a satisfactory manner. It is important to note that this timeline could last over a period of days, weeks, months or ultimately result in potential medical disqualification from the participation in athletics.

- The return to play progression is a 6-step process:
  - 1. No activity- Directly after being diagnosed with a concussion, the athlete should have complete physical and mental rest. Once the student-athlete is asymptomatic, at rest and baseline scores on ImPACT have returned the student athlete may progress to the next step.
  - 2. Light aerobic exercise- Walking, swimming, or biking while keeping heart rate below 70% of max.
  - 3. Sport-specific exercise- Basic low impact drills associated with the athlete's sport. (No head impact activities)
  - 4. non-contact training drills- Progress to more complex drills.
  - 5. Full contact Practice- After receiving medical clearance from the Team Physician or designee, athlete may resume normal training activities.
  - 6. Return to Play