



Northern Lehigh Athletics

My Child Has A Concussion

What is a concussion? Concussion is a mild traumatic brain injury that occurs when a blow or jolt to head disrupts the normal functioning of the brain. Some people lose consciousness after a concussion but others are just dazed and confused. Concussion is usually caused by a blow to the head, but can also occur after whiplash.

Myths

- If you weren't knocked out, then you don't have a concussion
- Everyone gets better in two weeks
- Once the headache goes away, everything will be fine
- Concussion is a minor brain injury with no long-term effects
- If there's no visible injury, everything's okay
- You should play through the pain--get back into the game!

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the signs yourself, seek medical attention right away.

After a Diagnosis of Concussion

The medical staff and administration at Northern Lehigh School District is committed to managing your child's concussion in the safest manner possible. No sports team or event will ever be more important than your child's brain health. We have developed a protocol that will ensure that each concussed student-athlete will receive the most appropriate medical care and will not return to sports participation until it is safe to do so.

Northern Lehigh School District

Concussion Protocol and Procedures

Acute Management

1. Any student-athlete who exhibits concussion signs and/or symptoms while participating with any school athletic team will be removed from the remainder of the event and not allowed to perform any activities that may increase the severity of the signs and/or symptoms.
2. If a team physician or athletic trainer (ATC) is on site, the student-athlete will be referred to that individual to have a concussion evaluation performed
3. After examination by the team physician or ATC, a student-athlete who is suspected to have suffered a concussion shall not return to participation on the same day. Return on the same day will only be allowed if the team physician and/or ATC determine that no concussion or other brain injury has occurred and that it is safe to return to participation.

4. If a physician or ATC is not present at the event, the head coach for the sport will be responsible for keeping the student-athlete out of competition for the day and contact the ATC and parents of the student-athlete.
5. Any student-athlete who is exhibiting concussion symptoms must have their parent(s)/guardian notified by the team physicians, ATC, or head coach
6. The student-athlete should be released only to the direct supervision of the parent(s)/guardian unless arrangements have been made between the physician or ATC, and the parent(s)/guardian.

Monitoring at the time of concussion

1. Following a suspected concussion, the ATC or member of the coaching staff should escort the student-athlete at all times
2. Regular neurological checks will be performed by the ATC. Any decline in the neurological status should be noted and may involve emergency transport for further evaluation.
3. The ATC will complete the *Concussion Symptom Checklist*.
4. Parents will be notified of concussion
 - a. A written copy of the *Northern Lehigh School District / OAA Orthopaedic Specialists Post-concussion Home and School Instructions* will be provided to and reviewed with the parents.
 - b. All questions clarified prior to release to parents custody
 - c. Emergency transport should always be offered even if not clinically mandated
5. Student-athletes will be notified they are off exercise and vigorous activity until cleared by a qualified physician.

Initial 24-72 hours

1. Student-athlete will be instructed to check in with ATC daily.
 - a. *Concussion Symptom Checklist* will be completed by ATC
 - b. Coaches will be notified of concussion and off-exercise status
 - c. Teachers will be notified that the student-athlete may require special academic accommodations
 - d. Any student-athlete who demonstrates signs and symptoms of a concussion will not be permitted to exercise, including participation in physical education classes, until medically cleared
2. Student athletes will undergo post-concussion neurophysiological testing (ImPACT® testing).
 - a. A quiet environment free of students, coaches and parents will be provided
 - b. Test will be supervised by trained staff
3. ATC will be responsible for initiating contact with OAA medical staff via phone, e-mail or in person.
 - a. A written description of the events will be provided
 - b. Concussion Symptom Checklist will be provided for review
 - c. Access to post-concussion ImPACT® scores will be provided for physician review
4. **At the discretion of the medical staff, the student-athlete may require an office visit.** ATC is responsible for notifying parents of office visit request.
5. ATC is responsible for notifying school nurse of concussion
 - a. Student-athletes may be permitted to continue with classes, however, if classes exacerbate symptoms an adapted school day may be recommended
 - b. Recommendations for adapted school day will be provided by OAA medical staff when appropriate.

Subsequent Management (post-initial 72 hours)

1. Plan of care will be established as a collaborative effort between physician, parent, student-athlete and ATC.
 - a. Plan of care will be supplied in writing by OAA medical team
 - b. Plan of care will be communicated to coaching staff by ATC
 - c. Daily logs of Concussion Symptom Checklist will be maintained by ATC
 - d. Decline in condition will be communicated directly to treating physician via phone or e-mail
2. Physician will establish post-concussive ImPACT® testing timeline. Athletes will not have more than one ImPACT® test in a seven day period of time unless outlined in treatment plan of MD.

Emergency Referral

1. The student-athlete will be transported to the nearest medical facility by EMS if any of the following signs or symptoms are noted:
 - a. Loss of consciousness on the field/court
 - b. Deterioration of neurological function
 - c. Decreasing level of consciousness
 - d. Abnormally unequal, dilated, or unreactive pupils
 - e. Any signs of symptoms of associated head/neck injuries, spine or skull fractures, or bleeding
 - f. Mental status changes: lethargy, difficulty maintaining mental arousal, confusion, or agitation
 - g. Weakness or numbness
 - h. Slurring of speech
 - i. Headaches that are worsening over time
 - j. Cranial nerve deficits
2. Student-athletes who are stable, but symptomatic can be transported by parents
3. It is the discretion of the medical staff to determine necessity of emergency transport to the hospital
4. The parents always have the option of emergency transportation

Return to Play Guidelines

1. Return to play depends on several factors:
 - a. Physical exam
 - b. *The Concussion Symptom Checklist*
 - c. Past history of head injury
 - d. ImPACT® scores within normal range of baseline
 - e. Recommendations by OAA medical staff, including ATC
2. The student-athlete must meet **all** of the following criteria to return to play
 - a. Asymptomatic at rest and with exertion
 - b. ImPACT® scores within normal range of baseline
 - c. ImPACT® scores reviewed by OAA medical staff and recommendations obtained
 - d. Student athletes must remain asymptomatic for 7 days
 - e. Student athletes must obtain written clearance from physician
3. If the student-athlete chooses to obtain medical clearance from another physician, OAA athletic trainers will not allow any student athlete to return to participation until they are symptoms free as deemed by our concussion protocol. **Any notes from an outside physician will not be used to override OAA protocol.**
4. Progression is individualized and will be determined on a case by case basis. The speed of progression will be established by collaboration between student-athlete, ATC and OAA medical staff.
5. Factors affecting speed of progression:

- a. Previous concussion history
 - b. Duration and type of symptoms
 - c. Age of student-athlete
 - d. Sport of participation
6. Stepwise progressions will be utilized. Each step should take 24-48 hours. Student-athlete must remain asymptomatic prior to taking the next step. If symptoms return, a 24 hour suspension of progression should take place before resuming the previous level.
- a. If symptoms return during progression, student-athletes should be removed from participation until symptoms resolve.
 - b. If symptoms do not resolve, the student-athlete should be referred back to OAA medical for re-evaluation.
7. OAA utilizes the Zurich Consensus Statement from the 3rd International Congress on Concussion in Sport (each step requiring 24-48 hours):
- a. Step 1: Light aerobic exercises (i.e. stationary bike, elliptical machine)
 - b. Step 2: Moderate aerobic exercises (begin running program)
 - c. Step 3: Functional exercises (increase running intensity, begin agilities, NON-contact sport-specific drills)
 - d. Step 4: NON-contact practice activities
 - e. Step 5: Full contact practice
 - f. Step 6: Full game participation
8. All return to play guidelines must be met and each step must be completed in its entirety with ATC clearance prior to being cleared to participate.

ImPACT®

Northern Lehigh School District utilizes the ImPACT® (Immediate Post Concussion Assessment and Cognitive Testing) software program to assist in the management of head injuries. It tracks neurocognitive information such as memory, reaction time, brain processing speed and concentration. We conduct a post-concussive test at 24-72 hours from date of injury and continue to test the student athlete until their scores return to normal. Additional information about ImPACT® can be found at www.impacttest.com