



Concussion Management & Return to Play Protocol / Learn Protocol

Definition: A disturbance in brain function caused by a direct or indirect force to the head resulting in a variety of non-specific symptoms and often does not involve loss of consciousness.

A concussion should be suspected, and a student/athlete be immediately removed from academic & athletic participation in the presence of any ONE or more of the following signs/symptoms, or any other signs or symptoms raising suspicion of impaired brain function or abnormal behavior following a relevant mechanism of injury.

headache	drowsiness	feeling "slow" or "foggy"
"pressure" in head	blurred vision	inappropriate fatigue
neck pain	sensitive to light	anxiety
nausea	sensitive to sound	agitation or depression
vomiting	ringing in ears	irritability
dizziness	unsteadiness/poor balance	confusion

Protocol for Athletic Concussion Management: Should an NU student-athlete be suspected for a concussion, the following protocol will be utilized:

- The student-athlete will be removed from athletic activity after a concussion has been assessed by either a Certified Athletic Trainer or Physician. Standard emergency management principles will be followed, with particular attention to excluding any suspicion of cervical spine injury. Once immediate first aid concerns are addressed, the concussive injury will be assessed, using the Northwest University Standardized Sideline Concussion Evaluation, based on the SCAT 5. If a concussion is suspected when an ATC or MD is not present, it is the *coach's responsibility* to immediately remove the athlete from participation, contact the NU athletic training staff, and refer the athlete for appropriate evaluation immediately.
- If a concussion is identified, the student-athlete will not be returned to play (athletic activity) that day.
- As long as the athlete is symptomatic, they will not be allowed to participate in any activity, including conditioning.

- During the symptomatic period, the athlete will report to the training room on a daily basis to complete the symptom score portion of the SCAT 5 and discuss their symptoms with an ATC.
- As symptoms diminish, the athlete will be evaluated through the SCAT 5 administered by a Certified Athletic Trainer. If they do not pass the test, they will remain at rest and re-test the following day. Once they pass the SCAT 5, they will begin the Zurich International Concussion Conference 2014 - Return to Play protocol.

Return To Play Protocol:

The athlete must meet the requirements of each step of the RTP protocol, with no return of symptoms, in order to progress to the next step. There must be a minimum of 24 hours elapsed to repeat the assessment for a step. There must be a minimum of 24 hours elapsed for progress between steps. If symptoms return at any step, the athlete will return to the beginning of the protocol.

Step 1: The athlete completes a full SCAT 5 evaluation and demonstrates no cognitive or functional deficits, and symptoms remain baseline or better. No activity that day.

Step 2: The athlete may engage in light, non-contact, low-impact aerobic activity with a goal of elevating heart rate.

Step 3: The athlete may engage in vigorous, non-contact, sport specific drills, with a goal of challenging concentration and increasing impact associated with elevated heart rate.

Step 4: The athlete may participate in non-contact practice, with a goal of simulating sport participation without opportunity for re-injury.

Step 5: The athlete completes a post-injury ImPACT evaluation. If the athlete demonstrates performance within expected norms on ImPACT, they may participate in full-contact practice. Should they not meet the expected norms on ImPACT, but remain asymptomatic, they will remain at Step 5 and re-test 48 hours later (as per Dr. Neil Roberts, MD). Should they still not meet the expected norms, their case will be referred to a team physician.

Step 6: The athlete completes a final SCAT 5 symptom scale 24 hours after full-contact practice. If they demonstrate no increase in symptoms, the athlete may be considered fully cleared for participation.

Return To Learn Protocol:

- The athlete must meet the requirements of each step of the RTL protocol. As symptoms diminish, the athlete will be evaluated through the SCAT 5 administered by a Certified Athletic Trainer. If they do not pass the test, they will remain at rest and re-test the following day. Once they pass the SCAT 5, they will begin the Berlin International Concussion Conference 2017 - Return to Learn protocol.

-The student athlete will be monitored for increase of severity or amount of symptoms, to determine the patient's progress. There must be a minimum of 24 hours elapsed for progress between steps. If symptoms return at any step, the athlete will not be allowed to progress to the next step. Research has been conducted which recommend a minimum of a week or more rest may be necessary of both cognitive and physical activity.

Step 1: No activity during period when student athlete presents multiple and significant degree of symptoms (Usually the first 7-10 days [plus] post-concussion depending of the history and symptoms of the person concusses). Complete cognitive rest: no class attendance; homework; reading; texting; computed work; activities on electronic devices.

Step 2: Gradual reintroduction of cognitive activity. Relaxed previous restrictions on cognitive activities such as homework; reading; texting; computed work; activities on electronic devices. for short periods of time 5-15 minutes at a time.

Step 3: Gradual return to school activities including homework, reading, or other cognitive activities outside of the classroom.

Step 4: Return to classroom part time. Part day of classroom attendance after the student athlete can tolerate 1-2 hours of homework activity at home. The re-entry into classroom will require accommodations to permit controlled sub-symptoms threshold increase in their cognitive load.

Step 5: Gradual reintegration into the classroom increasing time to full classroom attendance. Accommodations decrease as cognitive stamina improves.

Step 6: Resumption of full cognitive workload. Introduce testing, catch up with essential classroom assignments and projects. Full return to classroom attendance and assignment make-up is permitted when the student athlete is asymptomatic.

Glossary of Terms:

SCAT 5 – Series of evaluation criteria including: Symptoms (i.e. headache, sensitivity to light); Cognitive Screening (i.e. orientation, immediate memory); Concentration (i.e. digits backward, months reverse order); Neurological screen (i.e. passive cervical spine movement, balance tests); Delayed recall (i.e. recall words from previous test).

ImPACT Test – comprehensive computer exam comparing baseline and post-concussion test.

