



Concussion Management Protocol for Kansas State University Sports Medicine

Prior to participation in any athletic activity for Kansas State University, a student-athlete will have a pre-participation medical exam, complete a medical history, including concussion history, and undergo baseline cognitive and postural-stability testing (C3Logix and ImPact). The Team Physician will determine pre-participation clearance for activity and/or determine if any consultation or additional testing is needed once all baseline tests are completed.

All student-athletes, coaches, team physicians, athletic trainers, and directors of athletics will sign a concussion fact sheet in which they accept the responsibility for reporting student-athlete injuries and illnesses to the medical staff of Kansas State University, including signs and symptoms of concussions.

Medical personnel with training in the diagnosis, treatment and initial management of acute concussion must be "present" at all NCAA varsity competitions in the following contact/collision sports: basketball; football; pole vault; soccer. To be present means to be on site at the campus or arena of the competition. Medical personnel may be from either team, or may be independently contracted for the event. Medical personnel with training in the diagnosis, treatment and initial management of acute concussion must be "available" at all NCAA varsity practices in the following contact/collision sports: basketball; football; pole vault; soccer. To be available means that, at a minimum, medical personnel can be contacted at any time during the practice via telephone, messaging, email, beeper or other immediate communication means. Further, the case can be discussed through such communication, and immediate arrangements can be made for the athlete to be evaluated.

Once a student-athlete is suspected of having a head injury, as reported by a coach, teammate, or individual, the medical staff (Team physician and/or Athletic Trainer) of Kansas State University will be immediately notified. From that moment, the student-athlete of concern may not return to play until cleared by the medical staff. In football, the athlete's helmet will remain in the possession of the medical staff until the student-athlete has been cleared to return to play by the medical staff.

Upon notice of a possible head injury, the athletic trainer will conduct an immediate assessment of the student-athlete. The assessment may consist of cognitive testing (C3Logix) and may include postural-stability testing (BESS in C3Logix) or completing a symptom checklist (C3Logix). Simultaneously, the team physician will be notified of the head injury. If the athletic trainer suspects that the student-athlete may have suffered a concussion, then the student-athlete will be held from further participation until evaluated by a team physician. The team physician will then conduct an independent assessment of the student-athlete's

condition that may include, but is not limited to physical examination and history, cognitive assessment, review of C3Logix, and clinical assessment for cervical spine, skull fracture, and intracranial bleed. Based upon this assessment, the physician will determine the extent of the head injury. If a diagnosis of concussion is declared, then the student-athlete may not return to play for the remainder of the day. Post-concussion management will be initiated, involving repeated assessment of the student-athlete's medical condition, monitoring for signs of deterioration of neurological signs/symptoms, spine injury, Glasgow Coma Scale < 13, focal neurological deficit, and/or repetitive vomiting. Should the student-athlete exhibit any sign of deterioration or prolonged loss of consciousness, the student-athlete will be immediately transferred to the nearest medical facility for further medical evaluation. If the degree of deterioration requires life-saving measures, immediate treatment will commence, including CPR, until emergency medical personnel can be summoned to provide stabilizing measures and ambulance transport to a medical facility.

Should the student-athlete's medical condition remain stable, he/she may remain at the sporting event/practice site. The student-athlete will provide any and all information requested by medical personnel.

For the stable post-concussion condition, a repeat cognitive and postural stability test will be performed after the game/practice. Additionally, the student-athlete will complete a symptom checklist to document the presence and severity of post-concussion symptoms. At the completion of the practice/game, a complete evaluation of the student-athlete will be conducted by a physician in a timely fashion, assuming the student-athlete's medical condition remains stable. Based upon this examination, the physician will determine the student-athlete's disposition.

If the student-athlete's medical condition is deemed stable enough to leave the premises, arrangements will be made for monitoring of the student-athlete through the night by a responsible adult (which may include roommate, friend, parents, etc...), and oral and written instructions to the student-athlete and the adult will be documented. Parents of the student-athlete may also be contacted and apprised of the situation. The student-athlete will be instructed to report any changes in his condition during the night, being given the phone number of the athletic trainer to contact should problems arise. The student-athlete will be advised to avoid drinking alcohol and to not take any NSAIDS or aspirin for their headache. Tylenol may be taken for headache relief. The student-athlete will be given a document that has at-home instructions.

The student-athlete will undergo a repeat thorough examination, including cognitive and postural stability testing (C3Logix and ImPact) if possible the following day or when the Team Physician deems appropriate. The student-athlete will complete a symptom checklist to document their post-concussion symptoms. Based upon review of these assessments, a treatment plan for the student-athlete will be created. The Team Physician will monitor and evaluate each student-athlete during their recovery and determine the rate of progression/recovery. The student-athlete with prolonged recovery will be evaluated by the Team Physician with consideration to additional diagnosis including but not limited to post-concussion

syndrome, migraine or headache disorders, sleep dysfunctions, anxiety, depression, etc. No physical exertion activity by the student-athlete will be allowed until medically cleared by the Team Physician. When the team physician determines that it is appropriate for the student athlete to reintroduce physical exertion (in most cases this will include the absence of postural instability and a return to baseline on symptoms assessment), the return-to-play protocol will be enforced as discussed below

Once medically cleared to begin exercise, the student-athlete will be progressed through an exercise protocol (return-to-play, RTP), with an initial cardiovascular challenge, followed by sport-specific activities that do not place the student-athlete at risk for concussion. The athlete will be required to perform each step of the protocol without exacerbation of post-concussion symptoms. If the student-athlete is able to perform the day's activity without symptoms, they will be allowed to advance their activity per protocol.

When the athlete is 4-7 days (or as directed by the Team Physician) post-concussion diagnosis, the athlete will be required to complete another C3Logix and/or ImPact post-injury test. If the athlete successfully tests at or above their baseline then follow-up C3Logix and/or ImPact testing will not be needed. If the athlete fails to meet their baseline score according to the C3Logix and/or ImPact report then they must repeat the respective test until baseline is met. The post-injury re-test will be dictated according to the Team Physician. Once satisfactorily completing the protocol asymptotically and successfully reaching the C3Logix and/or ImPact baseline score, the student-athlete may return to full competition in their sport, if approval from Team Physician is obtained.

The student-athlete will be advised that they are more susceptible to future concussions because of their previous concussion. Any student-athlete sustaining a concussion during the previous season will have repeat baseline testing at the start of the next season. The student-athlete will be reminded to report any and all symptoms suggestive of a concussion.

In addition to physical activity and exertion, any student-athlete who is diagnosed with a concussion will be held from all academic requirements until asymptomatic and baseline requirements have been met, including the day of diagnosis. Once medically cleared for exercise, a student-athlete will be progressed through a return-to-learn progression in addition to the return-to-play progression. This progression will be directed by the Team Physician and will be communicated to the athletic trainer, academic counselor, instructors/professors, and any other individual that the Team Physician deems necessary. The student-athlete will be required to perform each step of the progression without exacerbation of post-concussion symptoms. If the student-athlete is able to perform the day's activity without symptoms, they will be allowed to advance their activity per protocol.

The student-athlete will receive reasonable academic accommodations, which may include a modified schedule, an individualized plan, and/or other campus resources in accordance with ADAAA /Section 504. The Team Physician will also re-evaluate the student-athlete.

K-State Athletics highly encourages all student-athletes to use proper judgement and practice safe techniques as it relates to head injuries while

participating in practice/competition. Education and demonstrations of proper and safe techniques as it relates to the head should be practiced daily. K-State Athletics also supports the best practice guidelines listed below. If any student-athlete has a question or concern as it relates to a head injury they should immediately contact a member of the Sports Medicine Department.

<http://www.ncaa.org/health-and-safety/independent-medical-care-guidelines>

<http://www.ncaa.org/health-and-safety/football-practice-guidelines>

Return to Play (RTP) Guidelines/Progression

Once medically cleared to begin exercise, the student-athlete will be progressed through an exercise protocol using the following guidelines/progression. Each phase of the progression is considered complete only if the student-athlete remains asymptomatic during and after the workout is completed. The Team Physician will re-evaluate the student-athlete prior to medical clearance for participation.

1. Stage 1, Cardiovascular workout utilizing a stationary bicycle- up to 30 minute workout
2. Stage 2, Run/Jog on treadmill-up to 20 to 30 minute workout
3. Stage 3, Sports Specific agility drills on playing surface and can lift weights- Approximately 30 minute workout
4. Stage 4, Participate in non-contact sport practice.
5. Stage 5, Participate in normal practice.

**If a student-athlete has any recurring symptom(s) during the above mentioned progression, they should go back to the previous stage of progression when asymptomatic, and can only advance to the next if they remain asymptomatic upon completion of the workout. Any RTP progression that must be repeated cannot occur on the same day as the step that symptoms recurred.

Return to Learn (RTL) Guidelines/Progression

The student-athlete diagnosed with a concussion shall be withheld from classroom activity and tutoring/study hall the remainder of the day, and may be required to remain at home/dorm. There will be no academic requirements including classroom activities, study sessions, testing, etc... until the student-athlete has been medically cleared by the team physician. Once medically cleared to initiate academic activities, the student-athlete will be progressed through a RTL progression using the following guidelines/progression. Each phase of the progression is considered complete only if the student-athlete remains asymptomatic during and after the progression is completed. Following is the RTL protocol*:

1. Stage 1, 30 minutes of mental activity/exertion in a controlled environment. No computer work, no testing, and no visual work requirements.
2. Stage 2, 30 minutes of mental activity/exertion in a controlled environment followed by 15 minutes of rest, then 30 more minutes of mental activity/exertion. No computer work or testing allowed.
3. Stage 3, Resume class room attendance and study table requirement. No computer work or testing allowed.
4. Stage 4, Resume all class work and study table requirements, and resume normal computer use. No testing allowed.
5. Stage 5, Resume all academic requirements.

*If student-athlete has any recurring symptom(s) during the above mentioned progression, they should go back to the previous stage of progression when asymptomatic, and can only advance to the next if they remain asymptomatic upon completion of the workout. Any RTL progression that must be repeated cannot occur on the same day as the step that symptoms recurred.

A multi-disciplinary team consisting of a team physician, athletic trainer, academic counselor, and representative from the Student Access Center will be available to navigate more complex cases of RTL.

Bill Banks, Academic Counselor for Football, will serve as the point person to assist the student-athlete and to coordinate with professors and instructors and the Student Assistance Center regarding the student-athlete's RTL progression and reasonable academic accommodations, which may include a modified

schedule, an individualized plan, and/or other campus resources in accordance with ADA/Section 504.

Should the student-athlete describe symptoms lasting greater than two weeks, the student-athlete will be re-evaluated by the Team Physician (and members of the multi-disciplinary team, as determined by the Team Physician).



Sports Medicine

2201 Kimball Ave
Manhattan, KS 66502

INJURY AWARENESS LETTER

Regarding Your Student: _____

K-State Athletics Sports Medicine and Academic Counseling Departments would like to inform you that this student-athlete sustained an injury on _____ that prohibits him/her from all cognitive and visual stimulation tasks and limits his/her academic participation. He/she was evaluated by _____, team physician. This student-athlete will undergo additional testing over the next several days.

As a department, we wanted to make you aware of this injury and the need for reasonable academic accommodations. Assuming that this student-athlete does not suffer any setbacks, a typical return-to-learn progression works as follows:

1. Stage 1, No computer work, no testing, and no visual work requirements.
2. Stage 2, No computer work or testing allowed.
3. Stage 3, No computer work or testing allowed.
4. Stage 4, Resume all class work and study table requirements, resume normal computer use. No testing allowed.
5. Stage 5, Resume all academic requirements.

When this student-athlete attends class, please be aware that the side effects of the injury may adversely impact his/her academic performance. Please excuse him/her from all class assignments, quizzes, tests, and note taking at this point in time. We will continue to monitor the progress of this student-athlete and anticipate a full recovery. The K-State Athletics Academic Counseling Department will be kept updated regarding his/her status and will let you know when they can return to full academic participation. Should you have any questions or require further information, please do not hesitate to contact Matt Thomason at 785-532-6384.

Thank you in advance for your time and understanding.

Sincerely,