Safe Sports Network X High School
Guidelines for Management of Sports-Related Concussion

Medical management of sports-related concussion is evolving. In recent years, there has been a significant amount of research and expert consensus-gathering concerning sports-related concussion in high school athletes. These guidelines outline procedures for staff to follow in managing concussions and outlines suggested school policy as it pertains to return to play issues after concussion. This document is a template based on current research and best-practice. Specific situations may deviate from these procedures. Systematic differences should be noted and changed within the document. These guidelines attempt to provide guidance and structure to ensure safe participation in sports.

Safe Sports seeks to provide a safe return to activity for all athletes after injury, particularly after a concussion. In order to effectively and consistently manage these injuries, procedures have been developed to aid in ensuring that concussed athletes are identified, treated and referred appropriately, receive appropriate follow-up medical care during the school day, including academic assistance, and are fully recovered prior to returning to activity.

In addition to recent research, two primary documents were consulted in developing these guidelines. The "Consensus Statement on Concussion in Sport—The 5th International Conference on Concussion in Sport" held in Berlin, October 2016 (referred to as the Berlin Statement)1 and the "National Athletic Trainers' Association Position Statement: Management of Sport Concussion" (referred to in this document as the NATA Statement).2 Disagreement between resources was resolved in favor of the Berlin statement as it is the most recent.

These guidelines should be reviewed on a yearly basis by the school medical staff. Any changes or modifications will be reviewed and given to athletic department staff and appropriate school personnel in writing.

I. Overview: the primary components of the guidelines

A. Benchmarks of the program:
    1. Education and training of participants
        a. The goal is to have all medical staff update their knowledge on concussion management;
        b. Educate coaches, parents, athletes and local primary care physicians about the school guidelines;
    2. Baseline cognitive and balance assessments for all appropriate (collision & contact sports) athletes;
    3. Follow-up physical, symptom, balance and cognitive assessments of identified injuries within 24-72 hours (allows for Friday night game to Monday) unless the athlete does not return to school on Monday;
    4. Communication with treating MD, neuropsychologist (NP) or Credentialed ImPACT Consultant, parent, coach, school about injury and assessments;

5. Continued monitoring and assessment until cleared for Return to Sport (RTS) Strategy.
    a. Clearance to begin Stage 1 of RTS strategy (symptom-limited activity) after initial period of relative physical and cognitive rest for 24-48 hours.
6. Completion of remaining RTS stages, monitored by certified athletic trainer (ATC), will occur once athlete has been symptom-free for at least 24 hours.

II. Recognition of concussion

A. Definitions
    1. Sport related concussion: a traumatic brain injury induced by biomechanical forces. Several common features that may be utilized in clinically defining the nature of a concussive head injury include:
        a. SRC may be caused by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head.
        b. SRC typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.
        c. SRC may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.
        d. SRC results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.
    2. Second Impact Syndrome: A rare phenomenon of diffuse brain swelling with delayed catastrophic deterioration has been labeled “second-impact syndrome” due to the belief held by some that it occurs as the result of a second concussion before the effects of the initial concussion have resolved. While rare, it is catastrophic and a major concern.

III. Common signs and symptoms of sports-related concussion

A. Signs (observed by others):
    1. Athlete appears dazed or stunned
    2. Confusion (about assignment, plays, etc.)
    3. Forgets plays
    4. Unsure about game, score, opponent
    5. Moves clumsily (altered coordination)
    6. Balance problems
    7. Personality changes
    8. Responds slowly to questions
    9. Forgets events prior to trauma
    10. Forgets events after the trauma
    11. Loss of consciousness (any duration)
B. Symptoms (reported by athlete):
    1. Headache
    2. Fatigue

3. Nausea or vomiting
4. Double vision, blurry vision
5. Sensitive to light or noise
6. Feels sluggish
7. Feels "foggy"
8. Problems concentrating
9. Problems remembering

C. These signs and symptoms are indicative of probable concussion. Other causes for symptoms should also be considered. It is important to review medical history and baseline symptoms from screening/baseline.

IV. Cognitive impairment (altered or diminished cognitive function)

A. General cognitive status can be determined by simple sideline cognitive testing.
   1. AT may utilize SCAT5 (Sports Concussion Assessment Tool)[1], SAC (Standardized Assessment of Concussion) or other standard tool for sideline cognitive assessment. Utility of these tests decrease significantly 3-5 days after injury.
   2. Coaches or others medically responsible for athletes may utilize the basic SAC/SCAT5 assessment form or the Concussion Recognition Tool5 if AT is not available and make appropriate referrals.

V. Balance impairment (altered or diminished balance)

A. General balance status can be determined by simple sideline (BESS or modified BESS) testing.
   1. AT may utilize instrumented BESS or Modified BESS testing with C3 Logix iPad platform.
   2. Coaches or others medically responsible for athletes may utilize the basic BESS or Modified BESS assessment and record errors on paper, if AT is not available and make appropriate referrals.

VI. Baseline assessment and use of neurocognitive and balance testing

A. Neurocognitive testing is recommended to establish baseline level cognitive functioning.
   1. All collision/contact sport athletes should take a baseline neurocognitive test prior to participation in sports. (usually freshman year, then again in junior year).
   2. Testing should be conducted under the auspices of a qualified neuropsychologist or Credentialed ImPACT Consultant for administration and interpretation. Athletes with invalid baseline scores as identified by the ImPACT software will be discussed with AT and retesting considered.

3. Athletes in collision and contact sports (See Appendix 1) should take "new" baseline tests prior to participation their junior year.
4. Athletes who are new to a sport or new to the school will be tested prior to sport participation regardless of year in school to assure a valid baseline.
5. Computerized testing should be scheduled with adequate supervision and a script should be followed
    a. At least one trained proctor should be present.
    b. The background information takes about 10-15 minutes.
    c. Current symptoms mean "in the last 24 hours."
    d. The tests themselves take about 20 minutes.
    e. Tell athletes to read instructions twice before starting each test and to ask questions before starting the module. Some modules keep going whether you answer or not.
    f. The tests can detect "faking bad" - that is, trying to get bad results on baseline testing. Athletes may be asked to retake the test if it appears they were not trying.
    g. When finished, athletes should raise their hand to let the proctor know they are finished; proctor will log the computer out.

B. Balance testing is also recommended as an additional tool.
1. All collision/contact sport athletes should take a baseline balance test prior to participation in sports (usually freshman year, then again in junior year).
2. Athletes in collision and contact sports (See Appendix 1) should take "new" baseline tests prior to participation their junior year. Athletes who are new to a sport or new to the school will be tested prior to sport participation regardless of year in school to assure a valid baseline.
3. Balance testing will be completed on the iPad as part of the C3 Logix battery of tests. The C3 Logix test should be conducted with appropriate administration and supervision.
    a. Athletes enter demographic information into the iPad
    b. Balance is performed with the iPad placed in a belt and strapped to the athlete's back just below the iliac crests positioning the iPad on the sacrum.
    c. Athlete is asked about foot dominance and lower extremity musculoskeletal injury history.
    d. BESS protocol is followed using accelerometer and gyroscope in iPads.
    e. Errors are scored when athlete steps, stumbles or falls; lifts forefoot or heel; opens eyes; removes hands from hips; and/or bends at the waist greater than 30 degrees.
    f. If athlete remains out of testing position greater than 5 seconds, the trial is scored as 10 errors (max).

VII. Management and Referral Guidelines: General Guidelines for Sideline Management

A. Sideline assessment will be administered by AT to every athlete who is suspected of sustaining a potential concussion-causing injury and/or displaying concussion-like signs and symptoms. The AT will assess orientation, memory, concentration and symptoms. It is recommended to use the SCAT 5 or SAC assessment on the sideline.
B. History and oral examination, special tests, and physical exertion will be used to determine the presence and severity of the concussion, and to help the athletic trainer identify the appropriate referral course.
C. The general approach will be as described below:
    1. Assess subjective complaints (graded symptom checklist)
    2. Assess loss of consciousness, orientation and memory
        a. Did the athlete black out?
        b. Orientation…date, day of the week, approximate time of day
        c. Game/practice details (opponent, current game situation, recent plays or drills, knowledge of their position/role…)
    3. Assess athlete's memory of events preceding the blow (i.e., how did you get to the stadium today) and since the blow (recall of the event and if appropriate, plays or other events that occurred after the event).
    4. Assess concentration and recall
        a. Immediate recall: use a 5-word list (i.e. elbow, apple, carpet, saddle, bubble)
        b. Delayed recall: after completing remainder of evaluation (5 minutes or so), ask athlete to repeat the 5 words.
        c. Concentration: recite months of the year in reverse order beginning at a random month
        d. Concentration: 3-digit number string repeated backwards
    5. Assess cranial nerves
    6. Assess dermatomes and myotomes
D. Any athlete suspected of having a concussion by the AT must be removed from play for the remainder of that day's game or practice.

VIII. Suggested guidelines for on-field management of sports-related concussion in the <u>absence of an AT</u>

A. Any athlete with a witnessed loss of consciousness (LOC) of any duration should be evaluated by appropriate medical personnel and transported immediately to nearest emergency department via ambulance.
B. Any athlete who has symptoms of a concussion, and who is not stable (i.e., condition is changing or deteriorating), is to be transported immediately to the nearest emergency department via ambulance.
C. An athlete who exhibits any of the following symptoms should be transported immediately to the nearest emergency department, via ambulance.
    1. deterioration of neurological function
    2. decreasing level of consciousness
    3. decrease or irregularity in respirations
    4. decrease or irregularity in pulse
    5. unequal, dilated, or unreactive pupils

6. any signs or symptoms of associated injuries, spine or skull fracture, or bleeding
7. mental status changes: increasing lethargtm confusion or agitation
8. seizure/posturing activity
9. vomiting after sustaining a potentially concussion-causing injury

D. An athlete who is symptomatic but stable, may be transported by his or her parents.
1. The parents should be advised to contact the athlete's primary care physician, or seek care at the nearest emergency department, on the day of the injury.

E. The coach/AD should contact the AT to advise him/her of the injury.

F. ALWAYS give parents the option of emergency transportation, even if you do not feel it is necessary.

IX. Procedures for the Certified Athletic Trainer (AT)

Certain concussions (e.g. uncomplicated, resolving) may be managed by the AT (operating under the team physician's standing orders and in regular contact with the team physician and concussion consultant) without referral to outside physician. In cases when an injured athlete has not seen a physician, the AT is empowered to clear an athlete to return to play when all appropriate criteria are met (i.e. symptoms, balance and cognition are determined to be back to baseline, athlete has completed graded return to play and there are no clinical signs, symptom history or other concerns that would preclude return to play). When an athlete has seen a physician, however, a physician note will be required prior to return to play clearance. Said note must come from a physician other than an emergency room physician.

A. The AT will assess the injury or provide guidance to the coach if unable to personally attend to the athlete.
B. Immediate referral to the athlete's primary care physician or to the hospital will be made when medically appropriate.
C. Delayed referrals will be made as necessary (See Section XVII B).
D. The AT will notify the athlete's parents and give written and verbal home and follow-up care instructions.
E. The AT will notify school RN and continue to provide coordinated care with the school RN.
   1. The AT will notify the school nurse of the injury, prior to the next school day if possible (e.g., immediate email so it's there awaiting the nurse's next day arrival), so that the school RN can initiate appropriate follow-up in school immediately upon the athlete's return to school.
   2. The AT will communicate with the school nurse (or guidance counselor) regarding the athlete's neurocognitive and recovery status. If needed the school nurse will initiate procedures for academic adjustments for athlete.
   3. School nurse and AT will determine which of them should communicate with the athlete's treating physician/provider, then keep the other apprised of physician wishes.
F. The AT will notify the athletic director and team physician that an athlete has suffered a concussion. *The athletic director should notify school administration (e.g., vice principal).*
G. The AT will notify the supervising neuropsychologist or Credentialed ImPACT Consultant, whichever has been retained by the school, of the injury.

H. The AT is responsible for administering post-concussion cognitive and balance testing under the supervision of the neuropsychologist (when possible).
   1. Whenever possible, the initial post-concussion tests will be administered 24-72 hours post-injury.
   2. Repeat post-concussion tests will be given at appropriate intervals, dependent upon clinical presentation. The timing of retesting shall be determined on a case by case basis by the school's contractedNeuropsychologist or Certified ImPACT Consultant in consultation with the school's AT.
   3. AT will send notification of neurocognitive test data for supervising consultant to review as soon as possible upon the athlete's completion of the test.4. The AT will review post-concussion test interpretation with the athlete and the athlete's parent, when requested.
   5. The AT will forward testing results to the athlete's treating physician, with parental permission, when requested and/or appropriate.

I. The AT will monitor the athlete and keep the School Nurse informed of the individual's symptomatology and neurocognitive status, for the purposes of developing or modifying an appropriate health care plan for the student-athlete.

J. The AT will perform serial assessments of symptoms, signs, balance and cognition using assessment tools such as the C3 Logix platform and the ImPACT test.

K. The AT is responsible for monitoring recovery & coordinating the appropriate return to sport progression.

L. The AT will maintain appropriate documentation regarding assessment and management of the injury.

X. Guidelines and procedures for supervising neuropsychologist or Credentialed ImPACT Consultant, whichever the school has retained

A. Provide education and training as needed for AT, coaches, nurses, other relevant school personnel (e.g., guidance, psychologist, administrators), parents, primary care physicians, parents
   1. Topics may include
      a. Neuropathology of concussion
      b. Research about and use of cognitive testing
      c. Specific procedures for conducting baseline and follow-up testing
      d. Treatment strategies e. RTP guidelines

B. Assist in coordinating and conducting initial baseline testing procedure

C. Review all baseline testing

D. Consult with AT and determine needs for repeat baseline testing or follow-up discussions
   1. In cases of high symptom counts, AT should review with athlete

E. Review follow-up assessments in a timely manner; communicate impressions with AT, team physician or medical director, and PCP if permission granted.

F. Provide consultation on return to play status and treatment as indicated.

G. Communicate with AT and School Nurse regarding any needed schedule adjustments, accommodations or treatment interventions at school.

H. Consult with involved medical providers in cases of potential retirement from contact sports.

XI. Suggested Guidelines and procedures for coaches:

A. CALL FOR ATHLETIC TRAINER IMMEDIATELY IF AVAILABLE; IF NOT AVAILABLE: **RECOGNIZE, REMOVE, REFER**

1. Recognize concussion
    a. All coaches should become familiar with the signs and symptoms of concussion that are described in Section II.
    b. Coaches shall follow NHIAA Concussion Management Guidelines and sideline testing advice.
2. Remove from activity
    a. If a coach suspects the athlete has sustained a concussion, the athlete should be removed from activity, and the athlete will not return to play until completing the Safe Sports concussion pathway and/or receiving clearance from appropriate medical personnel (e.g., AT, physician).
    b. Any athlete who exhibits signs or symptoms of a concussion should be removed immediately, assessed, and shall not be allowed to return to activity that day.
3. Refer the athlete for medical evaluation
    a. Coaches should report all head injuries to the AT (or to other healthcare professionals if the AT is not available) as soon as possible, for medical assessment and management, and for coordination of home instructions and follow-up care.

B. The AT should be contacted as soon as possible.

1. The AT (if present) will be responsible for contacting the athlete's parents and providing follow-up instructions. The AT will also be responsible for initiating school-based follow-up.
2. Coaches should seek assistance from the host site AT if at an away contest.
3. If the AT is unavailable, or the athlete is injured at an away event, the coach is responsible for notifying the athlete's parents of the injury.
    a. This call or contact with parents should happen as soon as the person to make the call is not tied up taking care of this or another athlete. If the athlete must be transported emergently, the parents should be notified immediately.

C. If there is any question about the status of the athlete, or if the athlete cannot be monitored appropriately, the athlete should be referred to the emergency department for evaluation. If possible, a coach should accompany the athlete and remain with the athlete until the parents arrive.

D. Contact the parents to inform them of the injury and make arrangements for them to pick the athlete up at school. In the event that an athlete's parents cannot be reached, and the athlete is able to be sent home (rather than directly to MD):

1. The Coach or AT should ensure that the athlete will be with a responsible individual, who is capable of monitoring the athlete and understands the home care instructions, before allowing the athlete to be taken home. Written home care instructions should be provided to the individual responsible for monitoring the athlete.
2. The Coach or AT should continue efforts to reach the parent.
3. Remind the athlete to report directly to the school nurse before school starts,

on the day he or she returns to school after the injury. If the coach cannot speak directly to the AT or AD, they should notify the school nurse about the injury via email. It is important for the school nurse to be informed about the concussion (or suspected concussion) before the athlete's return to school.

4. Athletes with suspected concussions should not be permitted to drive home.
5. Coaches should notify the AD of the injury ASAP via phone or email on the day of the injury.

XII. Suggested follow-up care of the athlete during the school day:

A. Suggested Responsibilities of the School Nurse

1. The athlete will be instructed to report to the school nurse upon his or her return to school.
2. At that point, the school nurse should:
   a. Re-evaluate the athlete utilizing a graded symptom checklist.
   b. Provide an individualized health care plan (as needed) based on both the athlete's current condition and initial injury information provided by the AT or parent.
   c. Notify the student's guidance counselor and teachers of the injury immediately.
   d. Notify the student's physical education/wellness teacher immediately that the athlete is restricted from all physical activity until further notice.
3. School nurse and AT will determine which of them will communicate with the athlete's treating physician/provider, if appropriate, then keep the other apprised of physician wishes.
4. **If the school nurse receives notification of a student-athlete who has sustained a concussion from someone other than the AT (athlete's parent, athlete, physician note), the AT should be notified as soon as possible, so that follow-up neurocognitive and balance testing can be arranged.**
5. The school nurse should monitor the athlete, and keep the AT informed of the individual's symptomatology and neurocognitive status, for the purposes of developing or modifying an appropriate health care plan for the student-athlete.
6. The school nurse should monitor the athlete on a regular basis during the school day.

B. Suggested Responsibilities of the student's guidance counselor or school psychologist (or other individual identified by the school to act as the concussion management team point person)

1. Monitor the student closely and recommend appropriate academic adjustments (including removal from class if necessary) for students who are exhibiting signs/symptoms of concussion.
2. Communicate with school health office on a regular basis, to provide the most effective care for the student.
3. Advocate for and develop appropriate academic adjustments during recovery, as needed.
4. Assist in baseline and/or follow-up testing as needed (with appropriate training).

XIV. RETURN TO SPORT (RTS) STRATEGY

A. Returning to participate on the same day of injury
   1. An athlete who exhibits signs or symptoms of concussion **shall not** be permitted to return to play on the day of the injury.
   2. Any athlete who denies symptoms but has abnormal sideline testing (i.e. cognitive, balance, etc) should be held out of activity.
   3. "When in doubt, hold them out"

B. Treatment during recovery
   1. There is currently good agreement and strong data to suggest that complete rest following a concussion can actually be detrimental to recovery. . Therefore, return to sport protocols have incorporated gradual and progressive exercise early on in recovery.
   2. Athletes should engage in a brief period of cognitive and physical rest (24-48 hours) before returning to school activities. School activities can then be progressed as tolerated as long as the athlete does not experience an increase in symptoms; any increase should result in a reduction in the level of activity.
   3. School personnel should be notified of status changes.

C. Graduated Return to Sport (RTS) Strategy
   1. General Guidelines:
      a. During the acute phase of a concussion, athletes should engage in a brief period of cognitive and physical rest (initial 24-48 hours).
      b. After this brief period of rest, the athlete can begin Stage 1 of the RTS strategy, which includes symptom-limited activity (see description below).
      c. The athlete will remain on Stage 1 of the RTS strategy until concussion-related symptoms have resolved for at least 24 hours.
      d. Once concussion-related symptoms have resolved for at least 24 hours, the athlete can proceed to Stage 2 of the progression.
      e. The athlete can continue progressing through the stages (in order) if he/she is able to complete each stage successfully while remaining asymptomatic.
   2. Length/Timing of RTS strategy:
      a. Return to sport must be individualized.
      b. Generally, each stage should take at least 24 hours; thus, the athlete will take a minimum of 5 days to proceed through the full rehabilitation protocol once they are asymptomatic at rest.
         i. Factors that may affect the rate of progression include previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates.
         ii. An athlete with a prior history of concussion, and/or one who has had severe or prolonged symptoms, should be progressed more slowly (e.g., 48 hours between stages), if appropriate.
      c. If any concussion-related symptoms occur during the RTS strategy, the athlete should drop back to the previous asymptomatic stage and attempt to progress again after being free of symptoms for a further 24-hour period at the lower stage.

   3. Graduated Return to Sport (RTS) Stages
      a. Stage 1:
         i. After a brief period of cognitive and physical rest during the acute

phase (24-48 hours) the athlete can begin Stage 1. During this stage, the athlete should be encouraged to become gradually and progressively more active while staying below their cognitive and physical symptom-exacerbation thresholds (i.e. activity level should not bring on or worsen their symptoms).

ii. **Aim:** Symptom-limited activity.
iii. **Activity:** Daily activities that do not provoke symptoms.
iv. **Goal of Stage:** Gradual reintroduction of work/school activities.
v. Once concussion-related symptoms have resolved for at least 24 hours, the athlete should proceed to Stage 2.

b. Stage 2:
   i. **Aim:** Light aerobic exercise.
   ii. **Activity:** Walking or stationary cycling at slow to medium pace. No resistance training.
   iii. **Goal of Stage:** Increase heart rate.
c. Stage 3:
   i. **Aim:** Sport–specific exercise.
   ii. **Activity:** Running or skating drills. No head impact activities.
   iii. **Goal of Stage:** Add movement.
d. Stage 4:
   i. **Aim:** Non-contact training drills.
   ii. **Activity:** Harder training drills, e.g., passing drills. May start progressive resistance training.
   iii. **Goal of Stage:** Exercise, coordination and increased thinking
e. Stage 5: *(must meet "full contact play" requirements outlined below before beginning stage)*
   i. **Aim:** Full contact practice.
   ii. **Activity:** Following medical clearance (AT or MD if applicable), participate in normal training activities.
   iii. **Goal of Stage:** Restore confidence and assess functional skills by coaching staff.
f. Stage 6: *(must meet "full contact play" requirements outlined below before beginning stage)*
   i. **Aim:** Return to sport.
   ii. **Activity:** Normal game play.

4. Requirements to resume full contact play (Stages 5 and 6)
   a. Asymptomatic at rest and with exertion (including mental exertion in school).
   b. Within normal range of baseline on post-concussion neurocognitive and balance testing.
   c. Have written clearance from primary care physician or specialist **IF** they saw a physician for this injury. (This clearance cannot be provided by the Emergency Room physician.)
   d. Successful completion of Stages 1-4 of RTS strategy while remaining asymptomatic.
   e. Written permission from parent/guardian to return to full contact play.
5. Appropriate monitoring of RTS strategy:
   a. Stages 1-3 are to be supervised by the AT. Stages 4-6 may be supervised by the team coach after he or she has received specific instructions from the AT.
   b. During RTS stages that are supervised by the team coach, the AT

and athlete will discuss appropriate activities. The athlete will be given verbal and written instructions regarding permitted activities. The AT and athlete will each sign these instructions. One copy of this form is for the athlete to give to the coach, and one will be maintained by the AT.

c. Coaches should be instructed to be aware that the AT will be providing such paperwork and should not allow the athlete to participate until he has seen that form each day.
d. Progression through RTS stages is to be approved by AT, and not left up to the coach.
e. The athlete should see the AT daily for re-assessment and instructions until he/she, has progressed to unrestricted activity (i.e., Stage 6), and been given a written report to that effect, from the AT. This daily monitoring should continue until the concussion has resolved regardless of whether the athlete's sports season has ended.

D. Referral

1. Please refer to "delayed referral" (Section XVII B) to identify when physician referral is warranted.

XV. Disqualifying an Athlete

A. Current Game or Practice: This decision will be based on the sideline evaluation, the symptoms the athlete is experiencing, the severity of the symptoms and the patient's history.
   1. Any question of concussion will result in removal from the contest and the athlete will be ineligible to return on the same day.
   2. Any suspected concussion will start the athlete on the concussion pathway outlined above and return to sport will be determined as outlined therein.

B. Season or Career: Decisions for disqualification for the season or career are very difficult and must involve input from many individuals involved in the care of the student athlete. Among other factors, concussion history, severity of episodes, and athlete's future will be considered when working to make this decision.
****Please refer to SSN Program Director or Assistant Director for further guidance on navigating situations of potential disqualification of an athlete from sport/s. ****

XVI. Home Instructions:

A. Parents should be notified of the injury on the day of the suspected concussion.
   1. Head Injury Warning Sheet shall be given to the athlete and/or the parent.
   2. Athletes should not drive if a concussion is suspected. Alternative transportation should be coordinated by the injured athlete, parents, coaches, AT and/or athletic director.

B. Special Considerations: Referral to Emergency Room - if the AT feels that the concussion may be significant enough to warrant wake-ups during the night, the athlete should be referred for same-day further medical workup.

XVII. Physician Referral:

A. In non-emergency situations, a written injury report (including test results) should be sent to the physician who will see the athlete; the athlete may hand carry the documents or they may be faxed to the doctor. In cases where a written report cannot be produced/delivered to the physician, the athletic trainer may contact the

physician with a verbal report.

B. Same-Day Referral in the presence of the AT or team physician (See Section VIII for referral guidance in the absence of the athletic trainer.)
   1. An athlete will be immediately referred if there is any single or combination of:
      a. Prolonged (> 30 seconds) loss of consciousness
      b. Seizure or posturing activity
      c. Deteriorating signs and symptoms. *Worsening of symptoms should result in activation of EMS.
      d. Significant amnesia (e.g., repetitive questioning)
      e. Vomiting
   2. Serious consideration for rapid referral should be given when athlete:
      a. Complains of severe headache
      b. Complains of prolonged (20 minutes) disturbance of vision or hearing
      c. Paresthesia or weakness

C. Delayed Referal
   1. A referral will be deemed necessary any time an athlete's signs and symptoms worsen (i.e., neurocognitive status deteriorates). If mild symptoms do not improve in a 2-hour time-frame post-injury (or by the time the athlete will be leaving the presence of the AT), the AT will exercise clinical judgment regarding referral at that time.
   2. A referral shall be deemed necessary in cases where symptoms significantly interfere with ADLs and/or are persistently severe.
   3. Symptoms of any severity that are not improving after 7-10 days may warrant referral to the team physician, primary care physician or a physician with expertise managing concussion.
   4. If symptoms persist for more than 10-14 days post injury, referral to a neuropsychologist or physician with expertise managing concussion should be considered.
   5. Athletes whose reported symptoms have resolved but whose neurocognitive or balance test scores are not within normal range 7-10 days after resolution of symptoms may warrant referral to a neuropsychologist or physician with expertise managing concussion.
   6. Athletes who have suffered a concussion within 6-12 months of the current concussion should be referred to a physician with expertise managing concussion, and then if cleared by the concussion specialist, a more conservative timeframe (e.g., 48+ hours between stages) should be applied to the return to sport strategy.

Appendix 1 - Sports that should be included in neurocognitive and balance baseline testing

Fall:

Football

Soccer

Field Hockey

Spirit

Volleyball

Winter:

Basketball

Ice Hockey

Wrestling

Alpine Skiing

Spirit

Spring:

Lacrosse

Baseball

Softball

Pole vaulters

References

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