MLS NEXT Concussion Identification and Management Protocol
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MLS Next
Concussion Identification and Management Protocol

Purpose

The identification and treatment of head injury, including concussion, in the sport of soccer is an important component of MLS Next's Safety and Wellbeing Policy (the "Safety/Wellbeing Policy") and is fully incorporated in the Safety/Wellbeing Policy by reference. The MLS Next Concussion Protocol (the "MLS Next Protocol") sets forth MLS Next's Rules and Regulations with regard to the education, diagnosis, recognition, evaluation, and management of these injuries. The goal of this MLS Next Protocol is to establish a standardized program that:

- follows the U.S. Soccer Protocol (defined below), and indirectly, the international consensus guidelines;
- sets a gold standard in youth soccer;
- and is actionable by all clubs sanctioned by MLS Next to participate in its Covered Programs[1] (the "Member Clubs").

Please note that all MLS Next protocols are subject to any more stringent minimum standards issued in federal, state, provincial and local laws.

How to Use This Document

MLS Next has adopted the U.S. Soccer Federation's "Recognize to Recover" program, including its Assessment & Management of Concussion in Soccer (the "U.S. Soccer Protocol"). The latest version of the U.S. Soccer Protocol is hereby incorporated into this MLS Next Concussion Protocol (the "MLS Protocol"), except to the extent of any conflicting or more specific terms or clarifications herein. In the event of any conflict between this MLS Next Protocol and U.S. Soccer Protocol, the MLS Next Protocol shall supersede.

Education

Education plays a critical role in concussion identification and management. Prior to the commencement of each season, all players registered in an Covered Program ("Players"), all technical staff, and all medical contractors or staff are required to complete the Centers for Disease Control and Prevention's "Heads Up to Youth Sports" online training program (available at *https://www.cdc.gov/headsup/youthsports/training/index.html)* and submit proof of completion in accordance with MLS Next registration instructions Additionally, such parties should review the "USSF Fact Sheet" for their respective groups (Players, coaches, or parents) located at the USSF site (*http://www.recognizetorecover.org/head-and-brain#concussions*).

Each Member Club shall implement a procedure to ensure that Players, parents, and Coaches are aware of such documents and encouraged to read them, such as posting the applicable version in locker rooms, technical staff offices, or emailing the link or a copy to parents, Players, and technical staff, as appropriate.

[1] This document is incorporated by reference in the MLS Next Safety and Wellbeing Policy and the MLS Next Rules and Regulations. Any defined term (indicated by capitalization not normally required by grammar rules) that is not defined in this document shall have the meaning given in those documents.

Member Clubs shall ensure that their technical and medical staff and contractors have reviewed this MLS Next Protocol, and the USSF Protocol, located at the following site (or a replacement link):
https://static1.squarespace.com/static/57125d942eeb814000fb1ca5/t/5e4c29a6752b454673e934cf/1582049716151/20200218+R2R+Concussion+Management+v3.pdf

Required Qualified Medical Provider at Games

At each Game (as defined in the Rules and Regulations), the home Member Club shall arrange for and engage a qualified medical professional (which can include a Certified Athletic Trainer) who is licensed or certified and authorized by state or provincial law to evaluate, manage, and provide return to play clearance for athletes suspected of, or diagnosed with, concussion ("Qualified Medical Professional" or "QMP". Additionally, the QMP must have knowledge of the MLS Next Protocol and be familiar with the execution of all medically-related components of the Protocol. If the home Club fails to ensure the presence of such QMP, the Game shall be cancelled, or if agreed by the away Member Club and referee and not causing delay to subsequent matches at the field, delayed not more than 60 minutes to allow for arrival or replacement of the QMP with another QMP. If both Member Clubs and the referee do not agree to a delay, the home member Club shall be fined and potentially subject to other discipline, in accordance with this Disciplinary Code, and subject to any exceptions therein. An exception may be based on factors beyond the control of the home Member Club, such as sudden unavailability of the QMP through no fault of the Club (e.g., illness or travel obstacles without reasonable advanced notice).

It is also recommended, but not required, that a QMP be present at all training sessions, practices and scrimmages.

Concussion Basics

MLS Next's Protocol, like Recognize to Recover, incorporates the definition of "concussion" set forth by the CISG (McCrory et al., 2017). The following is a summary is intended as a reference tool:

- Concussions are brain injuries.
- Concussions produce complex physiological processes that occur when traumatic biomechanical forces are applied to the brain.
- Concussions may be caused either by a direct blow to the head, face, neck, or elsewhere on the body, which causes an "impulsive" force to be transmitted to the head. Direct head-to-head contact, typically occurring when two athletes attempt to head the same ball, is the most common injury mechanism, although contact with any object or person on or around the field can result in injury.
- Loss of consciousness MAY occur but is NOT necessary for concussion.
- Concussion results in a diverse set of clinical signs and symptoms.
- The symptoms of concussion may or may not appear immediately; it may take 1 to 2 days for the symptoms to become apparent.
- Concussions typically are not visible on traditional neuroimaging (CT scans, MRI). Neuropsychological or "neurocognitive" tests may be used to detect abnormalities in thinking abilities caused by concussion. However, these tests are only one part of the return to play decision process and ideally should be interpreted in consultation with a neuropsychologist

Signs & Symptoms of Concussion

Identifying a Concussion. Identifying athletes with concussion or suspected of having a concussion is one of the greatest challenges faced by medical providers. Once considered a hallmark of the injury, loss of consciousness occurs in only 5% or fewer of injuries. Other clinical signs and symptoms associated with concussion may not develop for minutes, hours, or 1 to 2 days after injury. In addition, clinical signs may be difficult to identify and symptoms may not be disclosed by an athlete who desires to continue to play or is unaware they have concussion symptoms. As such, medical providers must be vigilant in their observation of athletes under their care, both on and off the field.

Clinical research has determined that the following signs indicate a high likelihood of a diagnosis of concussion following a direct or indirect blow to the head.

1. Lying Motionless / Loss of Consciousness: lying motionless on the playing surface. The Player does not appear to move or react purposefully, respond or reply appropriately to the game situation (including teammates, opponents, referees or medical staff).

2. Unsteady Gait / Motor Incoordination: the Player appears unsteady on his feet (including losing balance, staggering/stumbling, struggling to get up, falling) or in the upper limbs (including fumbling). May occur in rising from the playing surface or while walking/running.

3. Impact Seizure: involuntary clonic movements that comprise periods of asymmetric and irregular rhythmic jerking of axial (i.e., head, neck, face, jaw or back) or limb muscles

4. Involuntary Limb Stiffness / Tonic Posturing: involuntary sustained contraction of one or more limbs (typically upper limbs), so that the limb is held stiff despite the influence of gravity or the position of the Player. The tonic posturing could involve other muscles such as the axial or lower limb muscles. Tonic posturing may be observed while the athlete is on the playing surface or in the motion of falling, where the Player may also demonstrate no protective action.

5. No Protective Action / Floppy Fall: falls to the playing surface in an unprotected manner (i.e. without stretching out hands or arms to lessen or minimize the fall) after direct or indirect contact to the head. The player demonstrates loss of motor tone appears limp (which may be observed in the limbs and/or neck) before landing on the playing surface.

6. Blank / Vacant Look: the Player exhibits no or blunted facial expression or apparent emotion in response to the environment (may include a lack of focus/attention of vision). Blank, vacant or confused look is best appreciated in reference to the athlete's normal or expected facial expression.

If the Player exhibits any of the six signs enumerated above, or a concussion is suspected for other reasons, the Player shall be first evaluated on the field. If after the on-field assessment, the Player has any concussion-related signs and symptoms, or a diagnosis of concussion cannot be ruled out, the Player shall then undergo an off-field evaluation (see below). In such case, Player shall be removed from the game and precluded from playing in training or any other games (whether or not a Covered Program) until cleared to return to play pursuant to this MLS Next policy. If the Player is diagnosed with a concussion by the QMP or the suspicion of concussion persists after the evaluation, under no circumstances shall that Player return to play in the same day.

Additional Concussion Signs/Symptoms

Cognitive Signs/Symptoms: (A Player may report this, or it may be observed.) unaware of

game specifics (opposition colors, score of game, last play); confusion; amnesia (does not recall events prior to the hit or after the hit); changes in consciousness; not oriented to time, place, or date; difficulty concentrating, feeling "in a fog."

Physical: headache, dizziness, nausea, unsteadiness/loss of balance, feeling "dinged" or stunned or "dazed," seeing stars or flashing lights, sensitive to light, pressure in head, fatigue or low energy, ringing in the ears, and double vision. Difficulties with sleep may develop later – e.g., trouble falling or staying asleep. Sleeping too much.

Emotional: depressed mood, sadness, anxiety, irritable, easily frustrated, and heightened emotionality.

What to Do if You Suspect a Concussion Has Occurred

Concussive injuries often do not manifest overt signs, making it difficult for even the most diligent medical provider to identify all concussed athletes. Athletes, teammates, coaches, and officials, therefore, have an obligation to report a suspicion of concussion to medical personnel who will then evaluate the Player pursuant to this protocol. If in a training situation those without medical credentials suspect an athlete may be concussed, they should follow CRT5 recommendations (see below), acting conservatively. They should remove the athlete from participation (i.e., practice, conditioning, etc.) and not allow the Player to return until a QMP has performed an evaluation and cleared the athlete to return. (See *http://www.recognizetorecover.org/head-and-brain#concussions* and *http://www.recognizetorecover.org/concussion-awareness-week-1#concussion-awareness-week*).

In the event of a suspected concussion:

- Remove athlete from play immediately
- Player should be evaluated by a QMP
- If there is no QMP present and symptoms persis, Player should be transported to a medical facility for evaluation. If symptoms resolve, Player should be instructed to follow up with a QMP prior to return to sport. If a minor, instructions should be provided to the parent/guardian.

Remove from play. Those without medical credentials who observe an impact or the above-referenced signs and are unsure whether a concussion is suspected should utilize the Concussion Recognition Tool 5 ("CRT5") provided by the league, not to diagnose the condition, but rather to determine whether a concussion is reasonably suspected. As always, such person should err of caution and take a conservative approach to whether a concussion is suspected.

Evaluation and Diagnosis. All Players suspected of having a concussion should be evaluated by a QMP. This individual must be specifically trained in the evaluation and management of sports concussion. Having obtained a medical or other healthcare degree does not, by itself, indicate that the professional is adequately trained for the evaluation of concussion. The Player should not return to play until a QMP provider has provided clearance for return to play. Understanding that concussion symptoms or signs may not always be present within the first few hours of an inciting impact, any Player who is evaluated during a game with an "on-field" assessment that is not initially diagnosed with a concussion shall be evaluated again serially, ideally within 24-36 hours of the initial suspicion of injury by a QMP.

Players who are suspected of having sustained a concussion during a Game must be evaluated immediately on the field of play by the QMP. The evaluation must include at minimum the components of the "On-Field" assessment of the SCAT5 or Child SCAT5 (if the Player is 12 or younger), including the "ABCs" (Airway, Breathing, Circulation), Maddocks Questions, Glasgow Coma Scale, Cervical Spine Assessment and MLS On-field Symptom list.

If after this on-field assessment, the QMP determines that a suspicion of concussion persists, a more complete off-field evaluation is needed, including the full SCAT5 or Child SCAT5. Such an evaluation must be performed off-field and (to the extent reasonably possible) in a distraction-free environment. Players who are evaluated by the QMP and not diagnosed with a concussion and for whom there is no continuing suspicion of concussion may return to play in the same game. For a Player to return to competition following such evaluation, the QMP must clear the Player to return. Such QMP shall complete an incident report that details the evaluation and the reasoning for allowing a return to the Game. This can be completed after the Game. This clearance shall not circumvent the prohibition on same-day return to play.

SCAT5. MLS Next requires that the QMP be trained and facile in utilization of the SCAT5 and Child SCAT5 concussion evaluation tools. For all Players under the age of 13, the Child SCAT5 should be used. Off-field evaluation must consist of the full SCAT5 (or Child SCAT5) test, regardless of the time it takes to conduct. A copy of each tool can be found at: *http://www.recognizetorecover.org/head-and-brain#concussions* and *https://www.mlssoccer.com/mlsnext/resources.*

Substitutions Related to Head Injury and Evaluation. The USSF's Head-Injury Substitution Rules shall be incorporated into this MLS Next Protocol, unless otherwise indicated in an amendment to this MLS Next Protocol. These Rules shall apply to MLS Next in the same manner as they reference the "Development Academy." See Addendum A, attached.

Neuropsychological Testing. The use of neuropsychological or "neurocognitive" tests has become widespread in the evaluation and management of concussion. These tests measure "thinking" abilities such as learning, memory, problem solving, information processing speed and reaction time, which are often - but not always - affected by concussion. All Players in the MLS Next youth development league shall have baseline testing (ImPACT) completed at the start of the season. The test is then repeated after a concussion and the results are compared to the baseline test. The tests have shown to be useful in assessing the effects of concussion even if a baseline test is not available. A neuropsych ologist is in the best position to interpret the results of these tests.

In order for a QMP to access the Player's baseline test, the Player should provide the ImPACT "Passport ID" code given to the Player upon completion of the last baseline test taken. A Player who cannot find such Passport ID should contact MLS Next at: PlayerDevelopmentClaims@mlsplayerdevelopment.com.

Medical Management

Following a concussion diagnosis, an athlete should be removed from further sport participation with instructions to engage in relative physical and cognitive rest. Returning to play on the same day as a suspected concussion without appropriate medical clearance is now universally prohibited for all athletes by U.S. Soccer (and by MLS Next) and by many state or

and provincial laws in youth cohorts. Relative rest, typically lasting on the order of 24-48 hours, is defined as limiting the athlete to activities that do not exacerbate concussion-related symptoms or provoke new symptoms. While this means removing the athlete from sport participation to reduce injury exacerbation, the medical provider may also consider temporarily modifying or limiting school (including physical education) and other activities if they provoke symptoms. Extended periods of "complete rest" (more than 5 days) and inactivity are not recommended and may be harmful.

As the Player's symptoms improve day-to-day activities may be gradually increased under the guidance of a QMP as long as the introduction of activities (e.g., walking, reading, computer use) does not elicit new concussion-related symptoms or cause significant exacerbation of existing concussion-related symptoms (e.g., introducing walking, reading, computer use). Progression through the graded RTP process shall be under the direction of the Player's QMP. At all times, the Player shall be monitored for a re-emergence or exacerbation of concussion-related symptoms, which would lead to a pause in the progression and subsequent resumption of activity as tolerated. The Player's QMP is responsible for reviewing the Player's progress, and any challenges that emerge. The Player's parent or legal guardian (including parent) is responsible for communicating that progress with the Member Club technical staff, and the Member Club shall inform the parent or legal guardian of this responsibility and the preferred manner of communication.

Prior to return to contact play, the Player must be evaluated by a QMP who must provide written clearance for return to play, including exercise and training. No technical staff shall allow the Player to engage in full contact activity until a written clearance to do so by a QMP has been received.

Graded Exercise Progression. A graded return to play progression must be supervised by a QMP. An example of a return to play progression is provided below. Other information is available at:
https://static1.squarespace.com/static/57125d942eeb814000fb1ca5/t/5e4c29a6752b454673e934cf/1582049716151/20200218+R2R+Concussion+Management+v3.pdf).

1. Light aerobic exercise (e.g. stationary bicycle) for 15-20 minutes (do not allow Player to break a sweat)
2. Moderate intensity aerobic exercise (30 minutes, moderate intensity, breaking a sweat)
3. Sport-specific training (ball handling, passing, light running, NO heading)
4. Non-contact training drills, including full exertion interval training (may start light resistance training)
5. Full contact training with heading
6. Return to competition (game play)

Typically, a Player progresses from one step to the next every 24 hours as long as concussion-related symptoms do not newly emerge, reemerge, or become exacerbated. If the Player develops symptoms during one of the steps the activity should be stopped and the Player should be allowed to rest for 24 hours or until such symptoms resolve, whichever is later. The Player should then return to the prior step and resume the progression. The QMP shall be wholly responsible for determing the level of permissible activity, and whether a Player can engage in

such with or only without certain symptoms.

Patience is key as symptoms may re-emerge during this process. Do not attempt to speed up this process unless under the supervision of a well-qualified concussion specialist who has access to a multi-disciplinary team of qualified healthcare professionals.

Return to Play. Return to full contact play shall only occur once the Player is free of concussion-related symptoms and permitted in writing by the Player's QMP and only occurs after (1) player is free of concussion-related symptoms at rest, (2) Player remains free of concussion-related symptoms after a graded exercise progression, and (3) the Player is judged by the QMP to be at his or her neurocognitive baseline. At this point the appropriately trained healthcare professional should provide a written note clearing the Player for full-contact play.

Baseline Testing

ImPACT Baselines. ImPACT is a computerized neurocognitive assessment program. Initially, each team must conduct baseline tests for all athletes, and confirmation of completion must be received before the start of the first unrestricted contact play of the season. Baseline tests must be repeated every other year and, if the Player previously had only the ImPACT Pediatric test, once a Player turns 12. The Baseline test results should not be interpreted by test administrators, except for identifying invalid baselines designated as "Baseline ++" by the ImPACT program, in which case the test must be repeated. Otherwise, interpretation of baseline and post-injury ImPACT data is only to be performed by medical professionals who are trained in the interpretation of ImPACT data, when tasked with post-injury return-to-play decision making. The test may be conducted by non-technical club staff, including administrators, athletic trainers, or medical professionals. No coaches are to administer the ImPACT test. The test administrator must have completed ImPACT training as specified below, which is available at no cost online. ImPACT will e-mail each Club Administrator the required login credentials in a separate communication.

For children under 12 years of age, Players must be tested using ImPACT Pediatric, and the test must be administered in person, on an iPad, and only in a one-on-one setting, but never at home. The required training for ImPACT Pediatric is available at:
https://concussioncaretraining.com/courses/free-courses/impact-pediatric-onboarding-bundle/.

For children 12 years of age or older, the test must be administered in person at a team designated site (never at home), on a personal computer or laptop with an external mouse, and in small groups with no more than 5 Players. You will be directed to this link during registration. The Baseline Test can also be accessed at *www.impacttestonline.com/customercenter*. Instructions for (non-pediatric) Baseline testing administration are included in the MLS Next ImPACT Baseline Testing Instructions, which can be found at *https://www.mlssoccer.com/mlsnext/resources*. ImPACT's Administration Manual is also attached for test administrators. The required training is available at:
https://concussioncaretraining.com/courses/free-courses/impact-onboarding-bundle/.

You may note that these training bundles include sessions entitled, "Customer Center Walk-Through" and "Impact Basic Report Interpretation." Those sessions only apply to QMPs.

SCAT5 Baselines. MLS Next reserves the right to implement baseline SCAT5 testing, subject to reasonable advance notice. Such program will be incorporated by reference into this document, and all Member Clubs shall be subject to its requirements.

Please note that all required testing should be administered pursuant to the limitations on one-on-one interactions, as outlined in the MLS Safety and Wellbeing Policy.

Heading Reminder

Technical staff and Players are reminded that the rules of U.S. Soccer and MLS Next prohibit heading the ball by Players 11 years old and younger, regardless of the age group in which they play.

ADDENDUM A

U.S. Soccer Development Academy Head Injury Substitution Rule:
If a player in a Development Academy game suffers a blow to the head, is suspected of having suffered a concussion or has an apparent head injury during the course of a game, the club must remove the player from the game for a medical evaluation by a healthcare professional (HCP) or an athletic trainer certified (ATC) with a skill set in emergency care and sports medicine injuries and with knowledge and experience related to concussion evaluation and management.

Effective January 1, 2016, the home team for all regular season Development Academy games (which excludes showcase events, playoffs and championships) will be responsible for providing an HCP or an ATC at each game, regardless of where the game is being played. This medical professional will have the final authority on head injuries, and must be made available to the visiting team if they did not travel with an HCP or ATC.

The Development Academy substitution protocol has been amended to allow a temporary substitute to replace the injured player while the player is being evaluated. This amendment is only applicable for head injuries; all other injuries will follow the standard Academy substitution protocol.

> A team may only make a temporary substitution if they have at least one substitution and one substitution moment remaining. In the event there are multiple players being evaluated with head injuries from the same team at the same time, that team cannot make more temporary substitutions than the number of substitutions and substitution moments that team has remaining. For example, if two players from the same team receive head injuries at the same time, that team needs two available substitutions, but only one available moment because the injury to both players occurred at the same time (injured players that are cleared can re-enter at separate stoppages.)

The temporary substitution will not count against the team's total number of allowed substitutions or substitution moments. If the player being evaluated has received clearance from the HCP or an ATC to return to the game, that player may re-enter at any stoppage of play and must replace the original temporary substitute, who will remain an available substitute and will be permitted to re-enter the game. Any cautions assessed to that player while in the game as a temporary substitute will carry with the player for the remainder of the game. In the event that player receives a red card while in the game as a temporary substitute, the player must exit the game and the team must play a man down. Following the send-off, if the player being evaluated for a head injury is cleared to return, the player may re-enter the game but the team will have to utilize a substitution and a substitution moment.

If the game ends before the evaluated player is cleared to return, the temporary substitute will be marked on the game report as a standard substitute.

If the player being evaluated for a head injury is not cleared to return, the temporary substitute will remain in the game and the team will be assessed a substitution and substitution moment.

Possible Scenarios

If there is only one substitution and/or moment remaining and a temporary substitute enters the game, can the teams make any other substitutions while the injured player is being evaluated?

- No

A temporary substitute receives a head injury while in the game

- If a temporary substitute receives a head injury while in the game as a temporary substitute, that player may be replaced by an additional temporary substitute, but only if that team has a second moment and second substitution remaining
- If there is not a second moment and substitution remaining, the team must play a man down until either the original player or the temporary substitute being evaluated have been cleared to return
- If a second temporary substitute is utilized and both the original player and the first temporary substitute are not cleared to continue, the second temporary sub can remain in the game and that team will only need to use one moment and one substitution

Two players on the same team receive head injuries at the same time

- To replace both players with temporary substitutes, the team must have two substitutions but only one moment remaining
- If both players being evaluated are not cleared to return, the team will still only be charged one moment, even if the temporary substitutes become formal substitutes at different times

What if the player being evaluated receives a red card?

- The temporary substitute must come off the field
- The team plays a man down
- The temporary substitute that was in the game for that player returns to the technical area and is available throughout the rest of the game as a regular substitute
- A substitution moment and substitution is not utilized

What if the temporary substitute receives a red card?

- The temporary substitute must leave the field of play
- The team must play a man down the rest of the game
- If the player being evaluated is clear to return to the game, he may come back in the game in place of another player, but the team will have to utilize one substitution and moment

A goalkeeper receives a head injury

- A head injury to a goalkeeper is treated exactly the same as any other head injury. There are no special circumstances for this situation

Does a neck injury count as a head injury?

- No, neck injuries are not considered head injuries