Schuylkill Valley School District Sports Medicine Concussion Protocol

Background: A concussion is a type of traumatic brain injury—or TBI—caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth. This sudden movement can cause the brain to bounce around or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging brain cells. Medical providers may describe a concussion as a "mild" brain injury because concussions are usually not life-threatening. Even so, the effects of a concussion can be serious.

Recognizing and evaluating concussions in athletes on the field is a challenging responsibility for the healthcare provider. Performing this task often involves a rapid assessment in the midst of competition with a time constraint and the athlete eager to play. A standardized objective assessment of injury that excludes more serious injury is critical in determining disposition decisions for the athlete. The sideline evaluation is based on recognition of injury, assessment of symptoms, cognitive and cranial nerve function, and balance. Serial assessments are often necessary. Because a concussion is often an evolving injury, and signs and symptoms may be delayed, erring on the side of caution (i.e. keeping an athlete out of participation when there is any suspicion of injury) is important.

The diagnosis of a concussion involves the assessment of a range of domains including clinical symptoms, physical signs, cognitive impairment, neurobehavioral features and sleep/wake disturbance. Furthermore, a detailed concussion history is an important part of the evaluation both in the injured athlete and when conducting a pre-participation examination.

Concussion Signs Observed

- Can't recall events *prior to* or *after* a hit or fall.
- Appears dazed or stunned.
- Forgets an instruction, is confused about an assignment or position, or is unsure of the game, score, or opponent.
- Moves clumsily.
- Answers questions slowly.
- Loses consciousness *(even briefly)*.
- Shows mood, behavior, or personality changes.

Concussion Symptoms Reported*

- Headache or "pressure" in head.
- Nausea or vomiting.
- Balance problems or dizziness, or double or blurry vision.
- Bothered by light or noise.
- Feeling sluggish, hazy, foggy, or drowsy.
- Confusion, or concentration or memory problems.
- Complains of "Feeling off, foggy, or down"
- Changes in sleep patterns
- Anxiety, sadness, irritable

*this is not an all-encompassing symptom list, any questions should be directed to the appropriate health care professional

If symptoms or signs in any one or more of the clinical domains are present, a concussion should be suspected and the appropriate management strategy instituted. It is important to note, however, that these symptoms and signs also happen to be non-specific to concussion, so their presence simply prompts the inclusion of concussion in a differential diagnosis for further evaluation, but the symptom is not itself diagnostic of concussion.

Concussion Response Plan

1. Student is suspected of sustaining a concussion – this can be done by the concussed athlete, coaches, officials, teammates, ATC (certified athletic trainer)
2. Once a concussion is suspected, the athlete is immediately removed from all activity.

NOTE – If an ATC is not available, the athlete **should not** be allowed to practice or compete for the remainder of the day. If the athlete is suffering severe symptoms or has an altered mental status, the coach should contact the ATC via cell phone to make a determination about whether 911 should be contacted – when in doubt call 911

3. The concussion should be immediately evaluated by the ATC
    a. The ATC will do a sideline or full evaluation which can include but is not limited to assessing level of consciousness, graded symptom scale, observing behaviors and signs, neurological response test(s), cranial nerve evaluation, assess cognitive function, balance/proprioceptive testing, and/or administering a formal or sideline Sport Concussion Assessment Tool 5th edition (SCAT5).
    b. Appropriate referrals will be made based on the clinical findings.
    c. Re-evaluation in 24-48 hours will be considered if clinically indicated.
4. Following ATC's evaluation if a concussion is suspected the athlete will be referred to confirm diagnosis
    a. Pennsylvania state law only allows a MD/DO or neuropsychologist to provide a definitive concussion diagnosis.
    b. It is recommended that the athlete make an appointment as soon as possible with their primary care provider. If they do not have or are unable to see their primary care provider they could be referred to a sports medicine doctor, or a doctor who specializes in concussions. (Going to an Urgent Care should be avoided, as they will refer directly to the Emergency Department for any head injuries)
    c. If the athlete has severe symptoms or the symptoms get worse, the athlete should be referred for immediate/emergent care via their primary care physician or in the emergency department.
    d. The ATC will notify and educate parents/guardians of the danger signs and the appropriate next steps.
    e. The ATC will communicate as applicable with school employees including but not limited to coaches, school nurses, guidance counselors.

Guidelines for Coaches – RECOGNIZE, REMOVE, REFER

1. RECOGNIZE the concussion
    a. All coaches (including volunteers) are required to take and pass the NFHS concussion course.
    b. Coaches should be aware of the possibility of a concussion during practice and competitions especially when athletes fall, come in contact with one another or are struck in the head.
    c. Familiarity with the signs and symptoms as listed above is vital in recognizing a possible concussion.
2. REMOVE from activity
    a. If a coach suspects the athlete has sustained a concussion, the athlete should be immediately removed from activity until he/she has a medical evaluation by an ATC or team physician.
    b. The coach must also remove the athlete from play if notified of a possible concussion by game officials, other athletes or game administrators.
3. REFER the athlete for medical evaluation
    a. Coaches must report all head injuries to the ATC as soon as possible for assessment and follow-up.
    b. The ATC will be responsible for contacting the athlete's parents and providing follow-up instruction.
    c. If the coach is at an away competition and no ATC is present, the coach or assistant coach should contact the Schuylkill Valley ATC via cell phone. If the ATC is unavailable, the coach is responsible for notifying the athlete's parent regarding the injury.
    d. If the ATC is unavailable, the athlete should not be allowed to drive. He/she should be sent home with a parent or responsible adult who is capable of monitoring the health of the athlete.
    e. If an ATC is unavailable and the athlete loses consciousness or the athlete's symptoms deteriorate the Emergency Action Plan should be activated.

Diagnosed Concussion Management Plan

1. An athlete who has a confirmed concussion diagnosis will be under the care of a physician until cleared to progress.
2. After a written physician clearance is received all athletes are required to follow the PIAA Concussion Gradual Return to Sport Progression under the direction of the athletic trainer or appropriate health care provider. See below an example of the gradual return-

   ***NOTE: An initial period of 24–48 hours of both relative physical rest and cognitive rest is generally recommended before beginning the return to sport progression.

Stage	Aim	Activity	Goal of each step
1	Symptom-limited activity	Daily activities that do not provoke symptoms	Gradual reintroduction of work/school activities
2	Light aerobic exercise	Walking or stationary cycling at slow to medium pace. No resistance training	Increase heart rate
3	Sport-specific exercise	Running drills. No head impact activities	Add movement
4	Non-contact training drills	Harder training drills, ex, passing drills. May start progressive resistance training	Exercise, coordination and increased thinking
5	Full contact practice	Participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6	Return to sport	Normal game play	

3. There should be at least 24 hours (or longer) for each step of the progression. If any symptoms worsen during exercise, the athlete should go back to the previous step. Resistance training should be added only in the later stages (stage 3 or 4 at the earliest). If symptoms are persistent (ex, more than 10–14 days in adults or more than 1 month in children), the athlete should be referred to a healthcare professional who is an expert in the management of concussion.
4. Athlete will be instructed to check in with the athletic trainer daily to get the day's tasks and to report any symptoms/signs. Patient reported outcomes may be obtained at this time.
5. Open communication lines between the athletic trainer, student, coaches, parents, and school nurse is imperative for a smooth recovery and transition back to normal every day activities.

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