OLDHAM COUNTY BOARD OF EDUCATION
ADMINISTRATIVE REGULATION –9060-AR

PROTOCOL AND PROCEDURES FOR MANAGEMENT OF SPORTS-RELATED CONCUSSION

Relates to: OCBE Administrative Regulation 9060.01-F, OCBE Form 9060.02-F

Oldham County Schools has established this protocol in collaboration with Baptist Hospital Northeast, the provider of the district's athletic training services, to provide education about concussions to athletic department staff and other school personnel. This protocol outlines procedures for managing head injuries, and outlines school practice as it pertains to return to play issues after a concussion.

Oldham County Schools seeks to assist in providing 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 athletes in being identified, treated and referred appropriately, receiving appropriate follow-up medical care and safely returning to athletic activity.

In addition to recent research, two (2) primary documents were consulted in developing this protocol. The "Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004" [i](referred to in this document as the Prague Statement), and the "National Athletic Trainers' Association Position Statement: Management of Sport-Related Concussion" [ii](referred to in this document as the NATA Statement).

This protocol will be reviewed on an as needed basis, by the Oldham County Schools and Baptist Hospital Northeast staff. Changes or modifications will be reviewed and given to athletic department staff and appropriate school personnel in writing.

I. Recognition of Concussion

A. Common signs and symptoms of sports-related concussion:

1. Signs (observed by others):
    - Athlete appears dazed or stunned
    - Confusion (about assignment, plays, etc.)
    - Forgets plays
    - Unsure about game, score, opponent
    - Moves clumsily (altered coordination)
    - Balance problems
    - Personality change
    - Responds slowly to questions
    - Forgets events prior to hit
    - Forgets events after the hit
    - Loss of consciousness (any duration)

2. Symptoms (reported by athlete):
    - Headache
    - Fatigue
    - Nausea or vomiting
    - Double vision, blurry vision
    - Sensitive to light or noise
    - Feels sluggish
    - Feels "foggy"
    - Problems concentrating
    - Problems remembering

3. These signs and symptoms are indicative of probable concussion. Other causes for symptoms should also be considered.

B. Cognitive Impairment (altered or diminished cognitive function)
1. General cognitive status can be determined by simple sideline cognitive testing.
   a. Athletic Trainer may utilize SCAT (Sports Concussion Assessment Tool)[iii], SAC, or other standard tool for sideline cognitive testing.
   b. Coaches may utilize the basic UPMC cognitive testing form.

II. ImPACT™ Neuropsychological Testing

A. ImPACT™ (Immediate Post-Concussion Assessment and Cognitive Testing) is a research-based software tool utilized to evaluate recovery after concussion. ImPACT™ evaluates multiple aspects of neurocognitive function, including memory, attention, brain processing speed, reaction time, and post-concussion symptoms.

B. All athletes at Oldham County high schools are required to take a baseline ImPACT™ test prior to participation in athletics.

III. Management and Referral Guidelines for All Staff

Suggested Guidelines for Management of Sports-Related Concussion[iv]

1. Emergency Medical Services (EMS) should be called immediately for any athlete with a witnessed loss of consciousness (LOC) of any duration for EMS evaluation and transport to the nearest hospital emergency department.
2. EMS should be called immediately for any athlete who has symptoms of a concussion, and who is not stable (i.e., condition is changing or deteriorating), to be evaluated and transported to the nearest hospital emergency department.
3. An athlete who exhibits <u>any</u> of the following symptoms should be evaluated by EMS immediately for evaluation and transport to the nearest hospital emergency department.
   a. deterioration of neurological function
   b. decreasing level of consciousness
   c. decrease or irregularity in respirations
   d. decrease or irregularity in pulse
   e. unequal, dilated, or unreactive pupils
   f. any signs or symptoms of associated injuries, spine or skull fracture, or bleeding
   g. mental status changes: lethargy, difficulty maintaining arousal, confusion or agitation
   h. seizure activity
   i. cranial nerve deficits
4. An athlete who is symptomatic but stable, may be released to the care of his or her parents. 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.

B. **ALWAYS** give parents the option of calling EMS, even if you do not feel it is necessary.

IV. Procedures for the Certified Athletic Trainer (AT)

A. The AT will assess the injury or provide guidance to the coach if unable to personally attend to the athlete.

1. Immediate referral to the athlete's primary care physician or to the hospital will be made when medically appropriate (see section II).
2. When available, the AT will perform serial assessments following recommendations in the NATA Statement, and utilize the Assessment of Concussion or SCAT (Sport Concussion Assessment Tool), as recommended by the Prague Statement
3. The AT will notify the athlete's parents and give follow-up care instructions.

B. The AT is responsible for administering post-concussion ImPACT™ testing.
1. The initial post-concussion test will be administered within 48-72 hours post-injury, whenever possible.
2. Repeat post-concussion tests will be given at appropriate intervals, as determined by the AT.
3. The AT will review post-concussion test data with the athlete and the athlete's parent.
4. The AT is responsible for monitoring recovery & coordinating the appropriate return to play activity progression.
5. The AT will maintain documentation regarding assessment and management of the injury.

V. Guidelines and Procedures for Coaches: *"RECOGNIZE, REMOVE, REFER"*

A. **Recognize** Concussion:
1. All coaches should become familiar with the signs and symptoms of concussion described in Section I.
2. Administering very basic cognitive testing is recommended to look for cognitive deficits.

B. **Remove** from Activity:
1. If a coach suspects the athlete has sustained a concussion, the athlete should be removed from activity until evaluated medically.
2. If the coach observes an **athlete exhibiting signs or symptoms of a concussion,** the athlete should be removed immediately, assessed, and **SHOULD NOT** be allowed to return to activity that day.

C. **Refer** the Athlete for Medical Evaluation:
1. Coaches should report all head injuries to the high school Athletic Trainer (AT), as soon as possible, for medical assessment and management, and for coordination of home instructions and follow-up care.
2. If the high school AT is unavailable, or the athlete is injured at an "away" event, the coach or his or her designee is responsible for notifying the athlete's parents of the injury. The coach (or his or her designee) should:
    a. contact the parents to inform them of the injury and make arrangements for them to pick the athlete up.
    b. contact the AT with the athlete's name and home phone number, so that follow-up can be initiated.
    c. remind the athlete to report to the AT on the day he or she returns to school after the injury.
3. In the event that an athlete's parents cannot be reached, and the coach or AT reasonably believe that the athlete is able to be sent home (rather than directly for medical care) the coach or AT should arrange for the athlete to be with a responsible individual, who is able to monitor the athlete and understand the home care instructions, before allowing the athlete to go home.
    a. The Coach or AT should continue efforts to reach the parent.
    b. If there is any question about the status of the athlete, or if the athlete is not able to be monitored appropriately, the athlete should be referred to the emergency department for evaluation. A coach or AT should accompany the athlete and remain with the athlete until the parents arrive
    c. Athletes with suspected head injuries should not be permitted to drive home.

VI. RETURN TO PLAY (RTP) PROCEDURES AFTER CONCUSSION

A. Returning to Participate on the Same Day of Injury

1. If the coach is aware or has reason to know that an athlete is exhibiting signs or symptoms of concussion, or has abnormal cognitive testing, the coach **SHOULD NOT** allow the athlete to return to play on the day of the injury. Any athlete who denies symptoms but has abnormal sideline cognitive testing given by the AT or coach should be held out of activity.
2. **"When in doubt, hold them out."**

B. Return to Play After Concussion

1. The athlete must meet **all of the following criteria** in order to progress to activity:
    a. Asymptomatic at rest **and** with exertion
    AND:
    b. Within normal range of baseline on post-concussion ImPACT™ testing **AND**:
    c. Have written clearance from primary care physician or specialist (athlete must be cleared for progression to activity by a physician other than an Emergency Room physician).
2. Once the above criteria are met, the athlete will progress toward full activity following a stepwise process, (as recommended by both the Prague and NATA Statements), under the supervision of the AT.
3. Progression is individualized, and will be determined on a case by case basis. 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. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport should be progressed more slowly than others.
4. Stepwise Progression as Described in the Prague Statement:
    a. No activity – do not progress to step 2 until asymptomatic
    b. Light aerobic exercise – walking, stationary bike
    c. Sport-specific training (e.g., skating in hockey, running in soccer)
    d. Non-contact training drills
    e. Full-contact training after medical clearance
    f. Game play

Note: If the athlete experiences post-concussion symptoms during any phase, the athlete should drop back to the previous asymptomatic level and resume the progression after 24 hours.

5. The athlete should see the AT daily for re-assessment and instructions until he or she has progressed to unrestricted activity.
6. The AT and athlete will discuss appropriate activities for the day. The athlete will be given instructions regarding permitted activities.

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[1] McCrory P, et al. Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004. *Clin J Sports Med.* 2005; 15(2):48-55.

[1] Guskiewicz KM, et al. National Athletic Trainers' Association Position Statement: Management of Sport-Related Concussion. *J Athl Train.* 2004;39(3):280-297.

[1] McCrory P, et al

[1] Guskiewicz KM, et al

Adopted: June 1, 2010

OLDHAM COUNTY BOARD OF EDUCATION
ADMINISTRATIVE REGULATION –9060.01-F

PHYSICIAN NOTIFICATION OF POTENTIAL HEAD INJURY

Relates to: OCBE Administrative Regulation 9060-AR, OCBE Form 9060.02-F

Dear Dr._____,

_____, a high school student athlete, sustained a potential head injury while participating in _____ on _____, 201__. The following information describes how Athletic Departments within the district's high schools handle head injuries, including the concussion grading system, computerized neurocognitive testing, and return to play guidelines.

Concussion Grading System

Grade 1(mild)	No loss of consciousness. Either post-traumatic amnesia* or post-concussive symptoms clear in less than 30 minutes.
Grade 2 (moderate)	Loss of consciousness lasting less than 1 minute; post-traumatic amnesia* or post-concussive symptoms lasting longer than 30 minutes but less than 24 hours.
Grade 3 (severe)	Loss of consciousness lasting longer than 1 minute or post-traumatic amnesia* lasting longer than 24 hours; post-concussive signs or symptoms lasting longer than 7 days. *anterograde or retrograde amnesia

Cantu* Guidelines for Return to Play After a Concussion (*Dr. Robert Cantu)

	FIRST CONCUSSION	SECOND CONCUSSION	THIRD CONCUSSION
Grade 1	May return to play after asymptomatic for 1 week	Return to play in 2 weeks if asymptomatic for 1 week	Terminate season; may return to play next season if asymptomatic
Grade 2	May return to play after asymptomatic for 1 week	Minimum of 1 month; may return to play then if asymptomatic for 1 week; consider terminating season	Terminate season; may return to play next season if asymptomatic
Grade 3	Minimum of 1 month; may return to play then if asymptomatic for 1 week; consider terminating season	Terminate season; may return to play next season if asymptomatic	

Neurocognitive Testing

The high schools perform pre-season baseline and post-concussion neurocogntive testing using the ImPACT™ (Immediate Post Concussion Assessment and Cognitive Testing) software program to assist in the management of head injuries. Developed by the University of Pittsburgh Medical Center's Sports Concussion Program, this software system is utilized throughout professional sports, is used by 31 NFL teams and many colleges and high schools, and has been mandated in the NHL. The exam takes about 20 minutes and is non-invasive. The program is set up in a format similar to video-game. It tracks neurocognitive information such as memory, reaction time, brain processing speed and concentration. Additional information can be found at www.impacttest.com.

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The high schools require a post-concussive test 2-3 days after a concussion. The athlete continues to be tested until he or she returns to baseline. This program is used only as a tool in making return to play decisions.

Oldham County high schools' protocol for managing these injuries and for return to play is briefly outlined below:

1. All athletes who sustain head injuries are required to be evaluated and cleared by their primary care physician (PCP), prior to being permitted to progress to activity. This includes athletes who were initially referred to the emergency department.
2. In addition to the physician exam, 2 other criteria must be met prior to clearance for return to play: (a) the athlete must be asymptomatic, at rest and with exertion, and (b) the athlete's post-injury neurocognitive testing data must be within normal range of the athlete's baseline neurocognitive testing scores utilizing the ImPACT ™
3. Athletes who have been cleared to progress to activity follow a graduated procedure, as recommended by the Prague statement ("The Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004") and the National Athletic Trainers' Association Position Statement on Management of Sport-Related Concussion (2004). The graduated progression for return to activity is:
    a. No activity – do not progress to step 2 until asymptomatic;
    b. Light aerobic exercise – walking, stationary bike;
    c. Sport-specific training (e.g., skating in hockey, running in soccer);
    d. Non-contact training drills;
    e. Full-contact training after medical clearance;
    f. Game Play

    Note: If the athlete experiences post-concussion symptoms during any phase, the athlete should drop back to the previous asymptomatic level and resume the progression after 24 hours.

As you know Second Impact Syndrome is a potentially fatal condition if an athlete sustains a second concussion before completely recovering from the first. This is why we are especially cautious with head injuries at Oldham County Schools/South Oldham High School/North Oldham High School/Oldham County High School. Thank you for your assistance, and if you have any questions please feel free to contact myself.

Sincerely,

Kelly Dike MS ATC/Lynn Cook MS ATC/Nick Sarantis MS ATC

South Oldham High School/North Oldham High School/Oldham County High School

Adopted: June 1, 2010