Wicomico County Public Schools Concussion Procedure

- Parent/Guardian and student-athlete concussion education is accomplished through the CDC’s Heads Up: Concussion Fact Sheet. This sheet is included in the Wicomico County athletic packet. The parents are to keep the Fact Sheet for reference and return the concussion acknowledgement signature sheet.
- ImPACT baseline and post-concussive testing is currently being done on a trial basis with selected high school athletic teams in Wicomico County. The teams who are part of the trial are: football, boy’s and girl’s soccer, boy’s and girl’s basketball, wrestling, and boy’s and girl’s lacrosse. Parents will receive information about ImPACT testing prior to their child being baseline tested.
- Athletes with a suspected concussion will be removed immediately from sport participation and will not return to play until medical clearance is authorized by the athletic trainer and/or an authorized health care provider (physician, physician assistant, nurse practitioner, neuropsychologist).
- Athletes with a concussion will require medical clearance from an authorized health care provider (Appendix B) prior to the progressing through the Wicomico County Public Schools Return to Play Concussion Protocol in Appendix A of this document (based on the recommendations in the Zurich Consensus Statement from the 3rd International Congress on Concussion in Sport¹and additional research²,³).
- Neurocognitive evaluation must return to baseline or normal during the first stage of the Wicomico County Public Schools Return to Play Concussion Protocol. Athletes will not progress to the second stage of the protocol until this has been achieved.
- The asymptomatic period for any concussion may be extended at the discretion of the Wicomico County Public Schools team physicians and/or athletic trainers.
- Authorized health care provider medical clearance notes inconsistent with the Wicomico County Public Schools Concussion Policy will not be accepted and such matters will be directed to the school’s team physician.
- Athletes sustaining two or more concussions (related or unrelated to sport) within one school year will require evaluation by a neurologist.

References:

Concussion Return to Play Protocol

This protocol allows for a minimum of 6 days of recovery after clearance by an approved health care provider before the athlete returns to a full-contact practice environment. The timeline may be extended for any athlete with concussion modifiers as defined below. If an athlete becomes symptomatic during any stage, he/she will stop activity and rest for 24 hours before restarting the protocol at the previous asymptomatic level. This protocol pertains to high school student athletes whose return to play is being overseen by an athletic trainer.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Duration (minimum)</th>
<th>Rehabilitation Stage</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>48 hours</td>
<td>No Activity – physical and cognitive rest *Athlete must be asymptomatic for a minimum of 48 hours and neurocognitive testing must return to normal/baseline levels before progressing to Stage 2</td>
<td>Recovery</td>
</tr>
<tr>
<td>2</td>
<td>24 hours</td>
<td>Light aerobic exercise – e.g. walking, swimming, or stationary cycling, keeping intensity to 70% of maximum predicted heart rate; no resistance training</td>
<td>Increase heart rate</td>
</tr>
<tr>
<td>3</td>
<td>24 hours</td>
<td>Sport-specific exercise – e.g. skating drills in ice hockey, running drills in soccer; no head impact activities</td>
<td>Add movement</td>
</tr>
<tr>
<td>4</td>
<td>24 hours</td>
<td>Non-contact training drills with progression to more complex training drills – e.g. passing drills in football and ice hockey; may start progressive resistance training</td>
<td>Exercise, coordination, and cognitive load</td>
</tr>
<tr>
<td>5</td>
<td>24 hours</td>
<td>Full-contact practice participate in normal training activities</td>
<td>Restore athlete’s confidence; coaching staff assesses functional skills</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Normal game play</td>
<td></td>
</tr>
</tbody>
</table>

Concussion Modifiers:
- Symptoms (High number/severity of symptoms, duration >10 days);
- Signs (Loss of consciousness >1 min, amnesia);
- Sequelae (Concussive convulsions);
- Timing (Repeated concussions over time, injuries close in time to one another);
- Co- or pre-morbidities (Mental health disorders such as depression or anxiety, ADHD or other learning disabilities, migraines, sleep disorders);
- Behavior (Aggressive/dangerous style of play);
- Sport (High-risk contact/collision sport)

References:
Medical Clearance for Gradual Return to Sports Participation Following Concussion

To be completed by the Authorized Health Care Provider (AHCP)

The above-named student-athlete presented with the following concussion sign(s) and symptom(s) upon the initial evaluation:


# of Prior Concussions_________  Other:________________________________

The purpose of this form is to provide medical clearance before starting the Gradual Return to Sports Participation, as directed by current medical evidence (2010 AAP Sport-Related Concussion in Children and Adolescents, 2008 Zurich Concussion in Sport Group Consensus).

Criteria for Medical Clearance for Gradual Return to Play (Check each)
The student-athlete must meet all of these criteria to receive medical clearance.

1. No symptoms at rest
2. No return of symptoms with typical physical and cognitive activities of daily living
3. Neurocognitive functioning at typical baseline
4. Normal balance and coordination
5. No other medical/ neurological complaints/ findings

Detailed Guidance

1. Symptom checklist: None of these symptoms should be present. Assessment of symptoms should be broader than athlete report alone. Also consider observational reports from parents, teachers, others.

<table>
<thead>
<tr>
<th>Physical</th>
<th>Cognitive</th>
<th>Emotional</th>
<th>Sleep</th>
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</thead>
<tbody>
<tr>
<td>Headaches</td>
<td>Sensitivity to light</td>
<td>Feeling mentally foggy</td>
<td>Irritability</td>
</tr>
<tr>
<td>Nausea</td>
<td>Sensitivity to noise</td>
<td>Problems concentrating</td>
<td>Sadness</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Numbness/ tingling</td>
<td>Problems remembering</td>
<td>Feeling more emotional</td>
</tr>
<tr>
<td>Visual problems</td>
<td>Vomiting</td>
<td>Feeling more slowed down</td>
<td>Nervousness</td>
</tr>
<tr>
<td>Balance Problems</td>
<td>Dizziness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Exertional Assessment (Check): The student-athlete exhibits no evidence of return of symptoms with:
   __ Cognitive activity: concentration on school tasks, home activities (e.g. TV, computer, pleasure reading)
   __ Physical activity: walking, climbing stairs, activities of daily living, endurance across the day

3. Neurocognitive Functioning (Check): The student’s cognitive functioning has been determined to have returned to its typical pre-injury level by one or more of the following:
   __ Appropriate neurocognitive testing
   __ Reports of appropriate school performance/ home functioning (concentration, memory, speed) in the absence of symptoms listed above

4. Balance & Coordination Assessment (Check): The student-athlete is able to successfully perform (SCAT2):
   __ Double leg, single leg, tandem stance (20 seconds, no deviations from proper stance)
   __ 5 successive Finger-to-Nose repetitions < 4 sec
For the Authorized Health Care Provider: Please complete the section below.

Return to Activity - Please Check One:

_____ I agree the athlete is cleared for unrestricted sports once he/she meets the below criteria:

1. Asymptomatic (with no use of medications to mask headache or other symptoms)
2. ImPACT and/or WCCAT (Wicomico County Concussion Assessment Test) return to within normal limits prior to progressing through the Wicomico County Public Schools Gradual Return to Play Concussion Protocol
3. Completion of Wicomico County Public Schools Gradual Return to Play Concussion Protocol based on recommendations in the Zurich Consensus Statement from the 3rd International Congress on Concussion in Sport. This may begin once the athlete is asymptomatic for a minimum of 48 hours and requires a minimum of 6 days until permitted return to full-contact sports.

_____ I have different recommendations beyond the above recommendations (please specify):

_____ The athlete is to see me again before initiating the Wicomico County Public Schools Gradual Return to Play Concussion Protocol.

_____ The athlete is to see me again if there are persistent or additional signs and symptoms.

* Please provide a separate note if a physical education excuse or any other academic accommodations are necessary.

I certify that: I am aware of the current medical guidance on concussion evaluation and management; The above-named student-athlete has met all the above criteria for medical clearance for his/her recent concussion, and as of this date is ready to return to a progressive Gradual Return to Sports Participation Concussion program as adopted by the Wicomico County Public Schools.

AHCP's name (please print): _______________________________________________

Address: _________________________________________________________________

Phone: ___________________________________________________________________

AHCP Signature: ______________________________________________________ (MD | DO | PA-C | NP)


Distribution: __Parent  __Athletic Director  __School Athletic Trainer  __School Nurse
Notification of Probable Head Injury

Dear Parent/Guardian:

Based on our observations and/or incident described below, we believe your son/daughter exhibited signs and symptoms of a concussion while participating in ______________________. Since your son/daughter has not been evaluated by an authorized health care provider (physician, neuropsychologist, nurse practitioner, physician assistant) at school, it is recommended that you seek an authorized health care provider if you have additional concerns or if you observe any of the urgent signs and symptoms listed below.

It is important to recognize that blows to the head can cause a variety of injuries other than concussions (e.g., neck injuries, more serious brain injuries). Please be sure to see your doctor as soon as possible for any other medical concerns.

Description of Incident/ Injury:

When to Seek Care Urgently. If you observe any of the following signs, call your doctor or go to your emergency department immediately.

<table>
<thead>
<tr>
<th>Headaches that worsen</th>
<th>Very drowsy, can't be awakened</th>
<th>Can't recognize people or places</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seizures</td>
<td>Repeated vomiting</td>
<td>Increasing confusion</td>
</tr>
<tr>
<td>Neck pain</td>
<td>Slurred speech</td>
<td>Weakness/numbness in arms/legs</td>
</tr>
<tr>
<td>Unusual behavior change</td>
<td>Significant irritability</td>
<td>Less responsive than usual</td>
</tr>
</tbody>
</table>

Common Signs & Symptoms. It is common for a student with a concussion to have one or more symptoms.

<table>
<thead>
<tr>
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<th>Sleep</th>
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<td>Visual problems</td>
<td>Feeling mentally foggy</td>
<td>Irritability</td>
</tr>
<tr>
<td>Nausea/vomiting</td>
<td>Fatigue/ feeling tired</td>
<td>Feeling slowed down</td>
<td>Sadness</td>
</tr>
<tr>
<td>Dizziness</td>
<td>Sensitivity to light/ noise</td>
<td>Difficulty remembering</td>
<td>More emotional</td>
</tr>
<tr>
<td>Balance problems</td>
<td>Numbness/tingling</td>
<td>Difficulty concentrating</td>
<td>Nervousness</td>
</tr>
</tbody>
</table>

Please be advised that your son/daughter will not be allowed to return to play until they have no symptoms, have completed the Wicomico County Public Schools Gradual Return to Play Concussion Protocol and have been cleared in writing by an authorized health care provider (physician, neuropsychologist, nurse practitioner, physician assistant) for this type of injury.

Please feel free to contact me if you have any questions. I can be reached at: ____________________________

Employee Name and Title ____________________________ Date ____________________________

Distribution: __Parent  __School Nurse  __Athletic Trainer
ACE POST-CONCUSSION
HOME/SCHOOL INSTRUCTIONS

Following these instructions after a concussion can prevent further injury and help recovery.

RETURNING TO DAILY ACTIVITIES
The key to recovery is sleeping, resting physically and mentally, and avoiding activities that might cause another head injury.

- Avoid:
  - Physical activities that produce concussion symptoms, as this might increase recovery time
  - Lengthy mental activities requiring concentration (i.e. Homework, schoolwork, job-related work, and extended video game playing) as these activities worsen symptoms and prolong recovery.

- Sleep
  - Get good sleep and take naps if tired. No late nights or sleepovers.
  - It is NOT necessary to wake up periodically

- The injured person should not participate in ANY high risk activities that might result in head injury until examined and cleared by a qualified health professional. High risk activities include sports, physical education (PE), climbing, or riding a bike.
- It is hard to change from the normal routine. The injured person will need help from parents, teachers, coaches, and athletic trainers to help manage their activity level.

DO’S AND DON’TS:
It’s OK to take prescribed pain medicine and sleep. You don’t need to wake up every hour. Don’t play sports or exercise!

<table>
<thead>
<tr>
<th>IT IS OK TO:</th>
<th>THERE IS NO NEED TO:</th>
<th>DO NOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take pain medicine as prescribed</td>
<td>Stay in bed</td>
<td>Drive while you have symptoms</td>
</tr>
<tr>
<td>Use ice pack on head and neck for comfort</td>
<td>Wake up every hour</td>
<td>Exercise or lift weights</td>
</tr>
<tr>
<td>Go to sleep</td>
<td></td>
<td>Drink alcohol</td>
</tr>
<tr>
<td>Rest</td>
<td></td>
<td>Participate in sports or high-risk activities</td>
</tr>
</tbody>
</table>

RETURNING TO SCHOOL:
If symptoms are severe (cannot concentrate for more than 30-45 minutes), staying home may be indicated until symptoms improve.
If symptoms are less severe, rest breaks during school can help recovery.

- As symptoms decrease, the extra supports (rest breaks during school) can be removed slowly.
- Inform the teachers, school nurse, school psychologist or counselor, and administrators about your child’s injury and symptoms.
- Students who experience symptoms of concussion often need extra help to perform school-related activities and may not perform at their best on classroom or standardized tests.

SCHOOL PERSONNEL:
School personnel should watch for indications of worsening symptoms, specifically:

- Increased problems paying attention, concentrating, remembering, or learning new information
- Needing longer time to complete a task
- Increased irritability or less of an ability to cope with stress

RETURNING TO SPORTS AND RECREATION
The injured person should NEVER return to sports or active recreation with ANY symptoms unless directed by a health professional.
NO PE class, physical activity at recess, or sports practices or games.

- Tell the Physical Education teacher and all coaches of the injury and symptoms.
- When appropriate, have the student check in with a health care professional on the first day he/she returns.
- It is normal for the child to feel frustrated, sad, and even angry because they cannot return to sports or recreation right away. A full recovery will lower the chances of getting hurt again. It is better to miss one game than the whole season.
Wicomico County Concussion Assessment Tool

NAME: __________________________________________

SPORT: _________________________________________

DATE/TIME OF INJURY: __________________________

DATE/TIME OF ASSESSMENT: ___________________

AGE: __________________ GENDER:   M     F

GRADE _____________ SCHOOL ______________

EXAMINER: _____________________________________

**Immediate Memory**

“I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order.”

Trials 2 & 3: “I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before.”

<table>
<thead>
<tr>
<th>List</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Alternative Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elbow</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Apple</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Carpet</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Saddle</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bubble</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Candle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Baby</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Finger</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Paper</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Monkey</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Penny</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sugar</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Perfume</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Blanket</td>
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<tr>
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<td></td>
<td>Table</td>
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<tr>
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<td></td>
<td>Sunset</td>
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<td></td>
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<td></td>
<td></td>
<td>Lemon</td>
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<td></td>
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<td></td>
<td></td>
<td>Wagon</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Iron</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Insect</td>
</tr>
</tbody>
</table>

Circle list of words used. Complete all three trials regardless of score on Trial 1 and 2. Read the words at a rate of one per second. Score 1 pt. for each correct response. Total score equals sum across all three trials. Do not inform athlete that delayed recall will be tested.

Immediate memory score: _______ of 15

**Coordination Exam**

Upper limb coordination:

*Finger to nose task: “I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended). When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose as quickly and as accurately as possible.”*

Which arm was tested: Right   Left

Scoring: 5 correct repetitions in < 4 sec. = 1

Coordination score: _______ of 1

Must touch nose and fully extend elbow after touching nose.

**Concentration**

Days in Reverse Order:

“Now tell me the days of the week in reverse order. Start with the last day and go backward. So you’ll say Saturday, Friday … Go ahead”

Sat, Fri, Thurs, Wed, Tues, Mon, Sun

One point for a correct sequence _____ of 1

**Balance Examination-Modified**

“Stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed across both feet. You should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes.”

The 20-second trial is scored by counting the errors, or deviations from the proper stance, accumulated by the athlete. The examiner will begin counting errors only after the individual has assumed the proper start position. The modified BESS is calculated by adding one error point for each error during the 20-second test. The maximum total number of errors is 10.

If an athlete commits multiple errors simultaneously, only one error is recorded but the athlete should quickly return to the testing position, and counting should resume once subject is set. Subjects that are unable to maintain the testing procedure for a minimum of five seconds at the start are assigned the highest possible score, ten.

Types of errors include:

- Hands off iliac crest; Opening eyes; Step, stumble, or fall;
- Moving hip into >30 degrees of abduction; Lifting forefoot or heel;
- Remaining out of testing position >5 seconds.

Non-dominant foot:   Right   Left

Tandem Stance (20 seconds) _____ of 10

Balance exam score (10 total errors) _______ of 10

**Delayed Recall**

“Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order.”

<table>
<thead>
<tr>
<th>List</th>
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<tbody>
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<td>Saddle</td>
<td>Table</td>
</tr>
<tr>
<td>Bubble</td>
<td>Wagon</td>
</tr>
</tbody>
</table>

Circle each word correctly recalled. Total score equals number of words recalled.

Delayed Recall Score: _______ of 5