

Concussion Management Plan

For:

Pulaski Community School District

1040 South St. Augustine St.

Pulaski, WI 54162



Prepared by:

Jerad Marsh

Director of Athletics

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**Pulaski Community School District Sports Concussion Management Plan
Draft #1 (4/09/2012)**

1. Overview

1.1. In response to the growing concern over concussion in athletics there is a need for High Schools to develop and utilize a "Concussion Management Plan". While regional limitations in the availability of specifically trained school and medical personnel are acknowledged, the following document serves as a standard for concussion management.

1.2. The following components will be outlined as part of a comprehensive concussion management plan:

1.2.1. Concussion Overview (section 2)

1.2.2. Concussion Education for Student-Athletes and Parent(s)/Guardian(s) (section 3)

1.2.3. Concussion Education for Coaches (section 4)

1.2.4. Pre-season concussion assessment (section 5)

1.2.5. Concussion action plan (section 6)

1.2.6. Appendix A: Statement Acknowledging Receipt of Concussion Education for Participant

1.2.7. Appendix B: Statement Acknowledging Receipt of Concussion Education for Coaches

1.2.8. Appendix C: Post Concussion Instructions

1.2.9. Appendix D: Return to School Recommendations

1.2.10. Appendix E: Return to Play Protocol

1.2.11. Appendix F: Memo- Implementation of NFHS Playing Rules Changes Related to Concussion and Concussed Athletes

1.2.12 Appendix G: Treatment Algorithm for Sports Related Concussion

2. What is a Concussion?

2.1. Concussion, or mild traumatic brain injury (mTBI), in accordance with the 3rd International Conference on Concussion in Sport (2008), is defined as a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces. Common elements include but are not limited to:

Confusion	Disequilibrium	Post-Traumatic Amnesia (PTA)
Feeling 'in a fog', 'zoned out'	Retrograde Amnesia (RGA)	Vacant Stare (Glassy eyed)
Disorientation	Emotional Liability	Delayed Verbal and Motor Responses
Dizziness	Inability to Focus	Slurred/Incoherent Speech
Headache	Excessive Drowsiness	Nausea/Vomiting
Loss of Consciousness (LOC)		
Visual Disturbances including light sensitivity, blurry vision, or double vision		

3. Concussion Education for Student Athletes and Parent(s)/Guardian(s)

3.1. At the beginning of individual sport seasons, student-athletes shall be presented with a discussion about concussions and given a copy of the CDC's "Heads Up: Concussion in High School Sports – A fact sheet for Athletes".

3.1.1. This information will be presented by the schools Licensed Athletic Trainer in cooperation and consultation with the athletic trainers supervising physician. Additional, local medical resources may also participate as needed.

3.2. At the beginning of individual sport seasons, parent/guardian(s) shall be presented with a copy of the CDC's "Heads Up: Concussion in High School Sports – A Fact sheet for parents".

3.3. These materials are available free of charge from the CDC. To order or download go to the CDC concussion webpage or use the following link: <http://www.cdc.gov/concussion>.

3.4. All student-athletes and their parents/guardians will sign a statement in which the student-athlete accepts the responsibility for reporting their injuries and illnesses to the coaching/athletic training staff, parents, or other health care personnel including signs and symptoms of concussion. This statement will also acknowledge having received the above-mentioned educational handouts. **See Appendix A.**

3.5. All student-athletes shall be **required** to participate in the above education prior to their participation in any sport at Prevea High School.

4. Concussion Education for Coaches

4.1. It is required that each year that the schools administrative staff, coaches, Licensed Athletic Trainers, and the schools nurse shall review the concussion management plan and a copy of the CDC's "Heads Up: Concussion in High School Sports – A Guide for Coaches" <http://www.cdc.gov/concussion>.

4.2. All Fall season coaches, Licensed Athletic Trainers, other medical staff, administrative personnel and school nurses shall complete a course dealing with concussion, its signs, symptoms and management. This course shall be completed prior to August 1st. After August 1st, the course shall be completed prior to working with student-athletes. The CDC, in partnership with the National Federation of State High School Associations, has developed a free web based course, "Concussion in Sports: What you need to know", to be used for this purpose.

4.2.1. As determined by Pulaski High/Middle School Administration, repetition of the course is required once a year.

4.2.2. The "Concussion in Sports: What You Need to Know" on-line course is available free of charge after registering at <http://www.nfhslearn.com>.

4.2.3. All coaches will sign a statement acknowledging they have taken a concussion course and have received the above mentioned educational handout. **See Appendix B.**

5. Pre-season concussion assessment

5.1. Optimally a concussion history should be included as part of all of a student/athlete's pre-participation physical health examinations with their health care professional.

5.2. It is recommended that every two years, student-athletes complete a baseline assessment prior to the beginning of the school year or their individual sports seasons as appropriate.

5.2.2. Neurocognitive Testing. Pre-season neurocognitive testing of all athletes is required and will be accomplished through a computerized system. Pulaski High/Middle School has chosen to partner with ImPACT® applications for this purpose.

5.2.2.1. The ImPACT® program is designed to measure specific brain functions that may be altered following a concussion. The program is designed in such a way as to allow athletes to be tested pre-season so that post injury performance may be compared to the athlete's own baseline.

5.2.2.2. Neurocognitive testing may be administered by the schools Licensed Athletic Trainer or other designated school personnel trained in test administration in a controlled computer lab environment.

6. Concussion Action Plan

6.1. When a student-athlete shows any signs, symptoms or behaviors consistent with a concussion, the athlete shall be removed immediately from practice or competition and evaluated by school personnel, the Licensed Athletic Trainer, or other health care professional with specific training in the evaluation and management of concussion.

6.1.1. School personnel, including coaches are encouraged to utilize a pocket guide on the field to assist them in recognizing a possible concussion. An example pocket guide is available as part of the CDC toolkit "Heads Up: Concussion in High School Sports" available at <http://www.cdc.gov/concussion>.

6.2. Where possible, the athlete shall be evaluated on the sideline by the Licensed Athletic Trainer or other appropriate health care professional. The sideline evaluation will include using the SAC (Sideline Assessment of Concussion tool) or the SCAT 2 (Sports Concussion Assessment Tool version 2).

6.2.1. The SCAT 2 is comprised of a symptom checklist, standard and sport specific orientation questions, the Standardized Assessment of Concussion (SAC), and an abbreviated form of the Balance Error Scoring Scale (BESS).

6.3. A student-athlete displaying any sign or symptom consistent with a concussion shall be withheld from the competition or practice and shall not return to activity until receiving clearance from a licensed physician (MD or DO). The student-athlete's parent/guardian(s) shall be immediately notified of the situation.

6.4. The student-athlete will receive serial monitoring for deterioration. Student-athletes and their parent/guardian shall be provided with written instructions upon dismissal from the practice/game. **See Appendix C for a copy of the instructions.**

6.5. In accordance with Pulaski High/Middle School emergency action plans, immediate referral to Emergency Medical Services should be provided for any of the following "Red Flag Signs or Symptoms".

6.5.1. Loss of Consciousness

6.5.2. Seizure like activity

6.5.3. Slurring of speech

6.5.4. Paralysis of limb(s)

6.5.5. Unequal pupils or dilated and non-reactive pupils

6.5.6. At any point where the severity of the injury exceeds the comfort level of the on-site medical personnel

6.6. Consultation with a team of health care professionals experienced in concussion management shall occur for all student-athletes sustaining a suspected concussion. This consultation may occur by telephone between the local health care professional and a provider experienced in concussion management.

6.7. For the purposes of this document, a health care professional is defined as one who is trained in management of concussion and who is:

6.7.1. A licensed physician (MD/DO)

6.7.2. Advanced nurse practitioner

6.7.3. Neuropsychologist

6.7.4. Physician assistant (PA) working under the direction of a physician (MD/DO)

6.7.5. Licensed athletic trainer working under the direction of a physician (MD/DO)

6.8. Subsequent management of the student-athlete's concussion shall be at the discretion of the treating health care professional, and may include the following:

6.8.1. When possible, repeat neurocognitive testing with comparison to baseline test results.

6.8.2 Medication management of symptoms, where appropriate

6.8.3 Provision of recommendations for adjustment of academic coursework, including the possible need to be withheld from coursework obligations while still symptomatic. **See Appendix D for list of possible accommodations required.**

6.8.4. Direction of return to play protocol, to be coordinated with the assistance of the licensed athletic trainer. **See Appendix E for return to play protocol.**

6.8.5. Final authority for Return-to-Play shall reside with the attending health care professional (see 6.7), or their designee. Prior to returning to competition, the concussed student athlete must have a return-to-play clearance form signed by a licensed Physician (MD or DO).

6.9 The incident, evaluation, continued management, and clearance of the student-athlete with a concussion shall be documented.

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APPENDIX A: Statement Acknowledging Receipt of Education and Responsibility to report signs or symptoms of concussion to be included as part of the “Participant and Parental Disclosure and Consent Document”.

I, _____ (*student/athlete name*), of Pulaski High/Middle School acknowledge that I have to be an active participant in my own healthcare. As such, I have the direct responsibility for reporting all of my injuries and illnesses to the sports medicine staff of Pulaski High/Middle School (e.g. team physician, athletic training staff). I recognize that my true physical condition is dependent upon an accurate medical history and full disclosure of any symptoms, complaints, prior injuries, and/or disabilities experienced. I hereby affirm that I have fully disclosed in writing any prior medical conditions and will also disclose any future conditions to the sports medicine staff at Pulaski High/Middle School.

I further understand that there is a possibility that participation in my sport may result in a head injury and/or concussion. I hereby acknowledge having received education about the signs, symptoms and risks of sport related concussion. I also acknowledge my responsibility to report to my coaches, parent(s)/guardian(s) any signs or symptoms of a concussion.

Signature and Printed Name of Student-Athlete

Date

I, the parent/guardian of the student-athlete named above, hereby acknowledge having received education about the signs, symptoms and risks of sport related concussion.

Signature and Printed Name of Parent/Guardian

Date

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APPENDIX B: Statement Acknowledging Receipt of Education and Responsibility to report signs or symptoms of concussion to be included as part of the "Coach Disclosure and Consent Document".

I, _____ (*coaches name*), of Pulaski High/Middle School acknowledge that I have to be an active participant in my own healthcare. As such, I have the direct responsibility for reporting all of my athlete's injuries and illnesses to the sports medicine staff of Pulaski High/Middle School (e.g. team physician, athletic training staff).

I hereby acknowledge having received education about the signs, symptoms and risks of sport related concussion. I also acknowledge my responsibility to report to my sports medicine staff, coaches, parent(s)/guardian(s) any signs or symptoms of a concussed athlete.

Signature and Printed Name of Coach

Date

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APPENDIX C: Immediate Post Concussion Instructions

The following instructions are to be given to each athlete and their parent/guardian after sustaining a concussion, as identified in section 6.4 of the Pulaski Community School District Concussion Management Plan

Athlete _____ Date of injury _____
 Sport _____ Home phone number _____
 Parent/guardian name _____

Your son/daughter has sustained a head injury while participating in _____. In some instances, the signs of a concussion do not become obvious until several hours or even days after the injury. Please be especially observant for the following signs and symptoms.

1. Headache (especially one that increases in intensity*)
2. Changes in gait or balance
3. Nausea and vomiting*
4. Blurry or double vision*
5. Difference in pupil size from right to left eye, dilated pupils*
6. Slurred speech*
7. Ringing in the ears
8. Noticeable changes in the level of consciousness (difficulty awakening, or losing consciousness suddenly)*
9. Dizziness
10. Seizure activity*
11. Memory loss
12. Decreased or irregular pulse or respiration*

*** Seek medical attention at the nearest emergency department.**

The best guideline is to note symptoms that worsen and behaviors that seem to represent a change in your son or daughter. If you have any questions or concerns about the symptoms you are observing, contact your family physician for instructions or seek medical attention at the closest emergency department. Otherwise, you can follow the instructions outlined below.

It is OK to:	There is NO need to:	Do NOT:
Use ice pack on head & neck for comfort	Check eyes with a flashlight	Drink alcohol
Eat a light diet	Test reflexes	Drive while symptomatic
Go to sleep	Stay in bed	Exercise or lift weights
Rest (no strenuous activity or sports)		Take Ibuprofen, aspirin, naproxen or other NSAIDS
Drink plenty of water		

Please remind your child to check in with the Licensed Athletic Trainer every day after school until cleared.

Recommendations provided to _____ Phone number _____

Recommendations provided by _____ Phone number _____

Date _____ Time _____

Licensed Athletic Trainer: Kyle Rabuck (262) 305-1521
 St. Mary's Hospital Emergency Room: (920) 884-4800
 St. Vincent Hospital Emergency Room: (920) 433-8384



Concussion Defined

Concussions are injuries to the brain caused by physical trauma to the head or body. Concussions are characterized by immediate and transient post-traumatic impairment of neural function. This alteration of brain can present as any number of signs and/or symptoms, such as those listed in Appendix C. Signs and Symptoms may last for a few minutes or much longer. A person does NOT have to lose consciousness to have a concussion.

Every head injury should be taken seriously and each dealt with appropriately. No two are exactly alike. The effects of head injuries can be cumulative and recovery time from one to the next is frequently longer.

Return to Play Criteria

It is imperative that no athlete resume strenuous activity until completely symptom free for 48 hours. We recommend a gradual return to activity following the guidelines below:

1. Rest until completely symptom free for 48 hours
2. Work slowly back into independent, non-contact aerobic exercise
3. Begin non-contact sport-specific training
4. Work up to game speed, non-contact drills
5. Begin full-contact training/games

If symptoms return at any time during this progression, activities should be stopped for the day. The athlete may attempt the same activities again the next day only if symptom free. Athletes should be able to comfortably complete a full practice session before returning to play in games.

General Recommendations

The recommendations in Appendix C are in no way a substitute for the direct care of a licensed physician.

- No aspirin, ibuprofen or any other anti-inflammatory medication should be taken.
- Continue to drink plenty of fluids.
- Only clear liquids should be consumed for four hours after the injury and then diet may be progressed as tolerated.
- A physical examination and mental rest are strongly encouraged.
- No alcoholic beverages should be consumed.

Prevea Sports Medicine

2502 S. Ashland Avenue
Green Bay, WI 54304
(920) 496-4750

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APPENDIX D: Return to School Recommendations

In the early stages of recovery after a concussion, increased cognitive demands, such as academic coursework, as well as physical demands may worsen symptoms and prolong recovery. Accordingly, a comprehensive concussion management plan will provide appropriate provisions for adjustment of academic coursework on a case-by-case basis. The following provides a framework of possible recommendations that may be made by the managing health care professional:

Inform teacher(s) and administrator(s) about your injury and symptoms. School personnel should be instructed to watch for:

- Increased problems with paying attention, concentrating, remembering or learning new information
- Longer time needed to complete tasks or assignments
- Greater irritability, less able to cope with stress
- Symptoms worsen (e.g., headache, tiredness) when doing schoolwork

Injured Student _____ Date _____

Until fully recovered, the following supports are recommended: *(check all that apply)*

May return immediately to school full time

Not to return to school. May return on (date) _____

Return to school with supports as checked below. Review on (date) _____

Shortened day. Recommend ___ hours per day until (date) _____

Shortened classes (i.e., rest breaks during classes). Maximum class length: ___ minutes

Allow extra time to complete coursework/assignments and tests

Reduce homework load by _____%

Maximum length of nightly homework: ___ minutes

No significant classroom or standardized testing at this time

No more than one test per day

Take rest breaks during the day as needed

Other: _____

Managing Health Care Professional

Please write legibly.

Name _____

Office Phone _____

E-mail _____

Alt. Phone _____

Health Care Professional Signature _____

Date _____

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APPENDIX E: Return to Play Protocol, to be included in “Return to Play Clearance Form”.

All “Steps” are to be under the direction of the health care professional and the guidance of the Licensed Athletic Trainer. This is a minimum timetable.

Athlete must be symptom-free for 24 hours prior to starting this program. Symptom-free means **NO** headache, nausea, vomiting, sensitivity to light or noise, fatigue, drowsiness, sleep disorders, nervousness, difficulty concentrating and remembering, numbness/tingling in extremities, dizziness, blurred vision, irritability or depression.

IMPACT® post testing if symptoms remain for more than 24 hours, testing to take place within 48 to 72 hours post injury.

Athlete should refrain from physical education activities until cleared for all sports activity. Step 6

Graded Symptoms Tested Daily

Stage	Functional Exercise or Activity	Objective	Recommended Tests Administered Before Advancing to Next Stage
1. No structured physical or cognitive activity	Only basic activities of daily living (ADLs). When indicated, complete cognitive rest followed by gradual reintroduction of schoolwork.	Rest and recovery, avoidance of overexertion	Initial Post-injury test battery: - Symptom checklist - Computer based neuropsychological testing
2. Light aerobic physical activity	Light cardiovascular work	Increase heart rate, maintain condition, assess tolerance of activity	- Symptom checklist
3. Moderate aerobic physical activity and non-contact training drills at half speed	Cardiovascular work with sprint intervals 10 pushups, 10 sit-ups, 5 single leg squats	Begin assimilation into team dynamics, introduce more motion and non-impact jarring activities	-Symptom checklist
4. Non-contact training drills at full speed	Light cardiovascular work 10 pushups, 10 sit-ups, 5 single leg squats 60 minutes of sports specific activities in practice with NO CONTACT.	Ensure tolerance of all regular activities short of physical contact.	- Symptom checklist -Computer based neuropsychological testing
5. Full contact practice	Full Contact Practice	Assess functional skills by coaching staff, ensure tolerance of contact activities	- Symptom checklist
6. Return to play	Regular game competition		

If, at any time symptoms return, stop activity. Rest until symptom free for 24 to 48 hours. Return to Step 1 of the protocol. If symptoms persist, consult a physician.

A completed “Return to Play Clearance Form” indicating the student is medically released to return to full competition shall be provided to school officials prior to a student’s being allowed to resume competition after suffering a concussion.

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APPENDIX F: Memo -Implementation of NFHS and WIAA Playing Rule Changes Related to Concussion and Concussed Athletes

In its various sports playing rules, the National Federation of State High School Associations (NFHS) and the Wisconsin Interscholastic Athletic Association (WIAA) have implemented a standard rule change in all sports dealing with suspected concussions in student athletes. The basic rule in all sports (the rule may be worded slightly differently in each to reflect the language of the sport) states:

Any athlete who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health-care professional. (Please see NFHS Suggested Guidelines for Management of Concussion in the Appendix of each NFHS Rules Book)

The WIAA has taken additional steps to insure athlete safety and has added to the above rule by stating:

A student who displays symptoms of a concussion and/or is rendered unconscious may not return to practice or competition without a physicians written approval.

The responsibility for observing signs, symptoms, and behaviors that are consistent with a concussion rests with school personnel, medical staff and sports officials. In conjunction with the *Pulaski School District Concussion Management Plan* and the rules stated above the following guidelines are given:

Role of the contest official in administering the new rules:

- Officials are to review and know the signs, symptoms and behaviors consistent with a concussion.
- Officials are to direct the removal an athlete who demonstrates signs, symptoms or behaviors consistent with concussion from the contest according the rules and protocol regarding injured contestants for the specific sport.

Role of school personnel in administering the new rules:

- All coaches, licensed athletic trainers, and administrative personnel are required to complete a course dealing with concussion. The NFHS course *Concussion in Sport* is available free of charge at www.nfhslearn.com and satisfies this requirement.
- All coaches and licensed athletic trainers are required to annually review the *Pulaski School District Concussion Plan* and the CDC publication *Heads Up: Concussion in High School Sports – A Guide for Coaches* available at http://www.cdc.gov/concussion/HeadsUp/high_school.html.
- A student athlete who demonstrates signs, symptoms or behaviors consistent with concussion shall be removed immediately from the contest and shall not return to play until cleared by an appropriate health-care professional. All athletes assessed and determined to have symptoms consistent with having suffered a concussion must have a physicians written clearance prior to returning to competition or practice.

Appropriate health-care professional:

An appropriate health-care professional is one who is trained in the management of concussion **AND** who is:

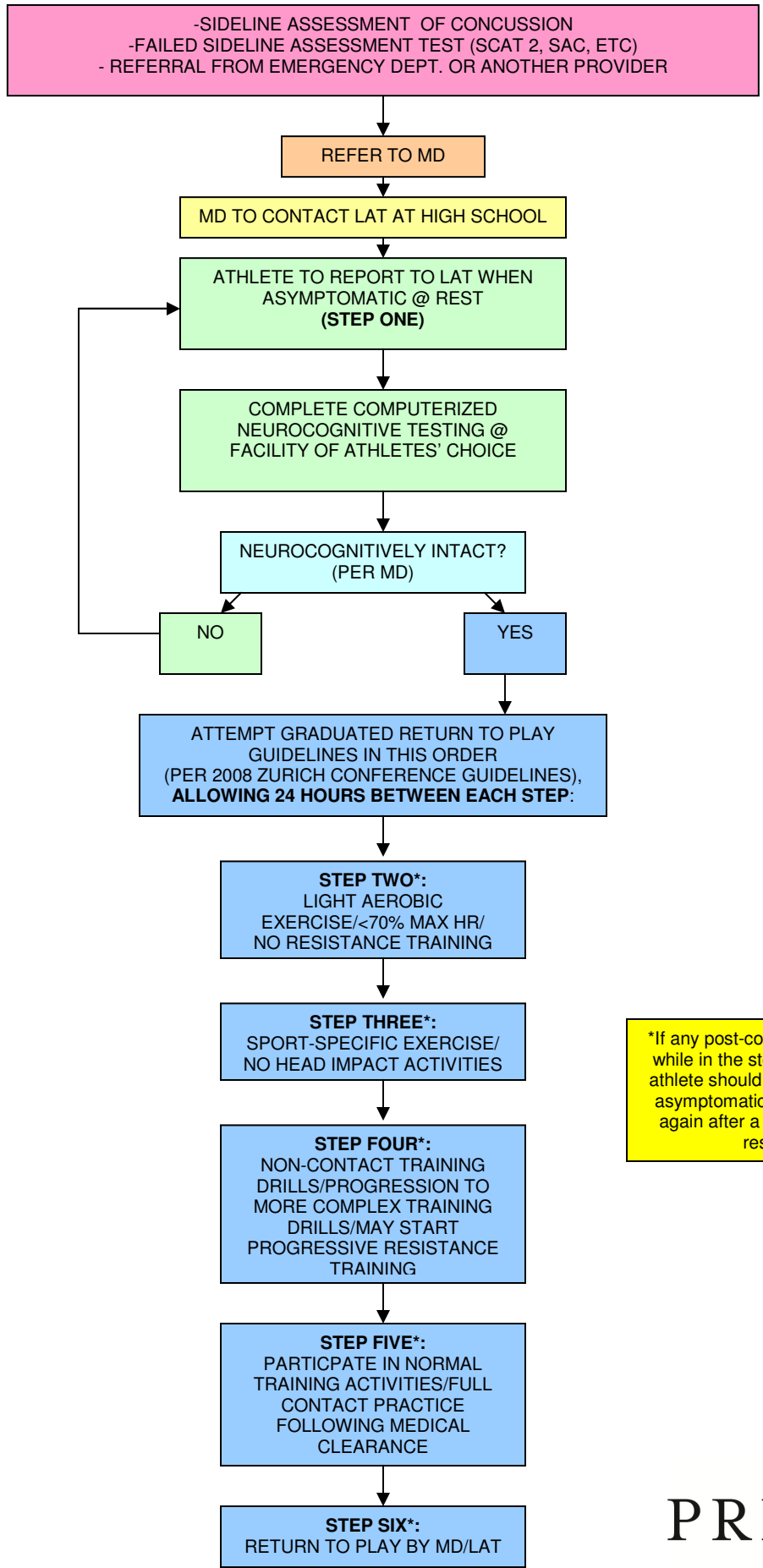
- A licensed physician (MD/DO)
- Advanced nurse practitioner
- Neuropsychologist
- Physician assistant (PA) working under the direction of a physician (MD/DO)
- Licensed athletic trainer working under the direction of a physician (MD/DO)

The Pulaski School District has developed a form for the school to receive written clearance from an appropriate health-care professional for return to play of a concussed student athlete. The form is available from the school athletic director or licensed athletic trainer.

Links to resources:

- Utah High School Activities Association – www.uhsaa.org
- National Federation of High School Sports “Concussion in Sports” – www.nfhslearn.com
- Wisconsin Interscholastic Athletic Association – www.wiaawi.org
- Consensus on Concussion in Sport: The Third International Conference on Concussion in Sport Held in Zurich, November 2008. *Journal of Athletic Training*, 2009. National Athletic Trainers Association, Inc. www.nata.org/jat

TREATMENT ALGORITHM FOR SPORTS-RELATED CONCUSSION
 WITH COMPUTERIZED NEUROCOGNITIVE TESTING AVAILABLE



*If any post-concussion symptoms occur while in the stepwise program, then the athlete should drop back to the previous asymptomatic level and try to progress again after a further 24-hour period of rest has passed.