Management of Concussion in the School Setting

The following policy and procedure (administrative rule) sample was created as part of the Developing a School Health Services Assessment Tool and Related Resources Project. This project is funded by Healthier Wisconsin Partnership Program, a component of the Advancing a Healthier Wisconsin endowment at the Medical College of Wisconsin.

The Management of Concussion in the School Setting sample policy and procedure has incorporated state and federal requirements along with best practice recommendations. Although it would be best practice to implement all the components of the policy and procedure in your school district, we are aware that district capacity, resources and other factors may result in adoption of portions of the sample policy and procedure.

We encourage you to meet as a team within your district to review the sample policy and procedure and identify what components of the policy and procedure you are currently doing in your district. If you have the capacity to expand upon what you are currently doing, review the sample policy and procedure to identify what other practices you would be able to implement.

Throughout the school year, we invite you to take notes using the following page(s). We suggest noting attendees and dates of meetings that you hold related to the policy and procedure. Noting discussions that you had during those meetings, identified next steps and additional information you would find helpful to share. These notes will be beneficial when you are asked to complete the evaluation surveys and participate in the site visit interviews with the project staff.

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Notes:

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# Policy:

[School District] is committed to ensuring the safety of students while at school and when participating in any school-sponsored events. [School District] recognizes that educating key individuals, including students, student-athletes, parents, coaches, school administrators, athletic directors, teachers, athletic trainers, physicians, and other health care providers (11) about prevention and early recognition of concussions remains the most important components of improving the care of students with concussions.

The [School District] is aware that head injuries, including concussions, can happen to any student, not just an athlete. The [School District] has developed procedures to address head injuries that occur during the school day, during school sponsored events and during school sponsored athletic events. Additionally, the [School District] is committed to providing students who have experienced a concussion, a plan to ease back in to school life, “return to learn”.

## Definitions:

**Concussion**: a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces” and includes five major features:

1. Concussion may be caused either by a direct blow to the head, face, or neck or elsewhere on the body with an “impulsive” force transmitted to the head
2. Concussion typically results in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously
3. Concussion may result in neuropathological changes, but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury
4. Concussion results in a graded set of clinical symptoms that may or may not involve loss of consciousness (LOC). Resolution of the clinical and cognitive symptoms typically follows a sequential course; however, it is important to note that in a small percentage of cases, postconcussive symptoms may be prolonged
5. No abnormality on standard structural neuroimaging studies is seen in concussion(14)

**Health care provider**: a person to whom all of the following apply:

* holds a credential that authorizes the person to provide health care
* is trained and has experience in evaluating and managing pediatric concussions and head injuries
* is practicing within the scope of his or her credential(30)

**Professional Nurse:** is a nurse who has a certificate of registration under s. 441.06 or who is licensed as a registered nurse in a party state, as defined in s. 441.50 (2) (j) who performs for compensation of any act in the observation or care of the ill, injured, or infirm, or for the maintenance of health or prevention of illness of others, that requires substantial nursing skill, knowledge, or training, or application of nursing principles based on biological, physical, and social sciences, herein referred to as the School Nurse.

**Credential:** a license or certificate of certification issued by this state (30)

**Youth athletic activity**:

* an organized athletic activity in which the participants, a majority of whom are under 19 years of age, are engaged in an athletic game or competition against another team, club, or entity, or in practice or preparation for an organized athletic game or competition against another team, club, or entity
* does not include a college or university activity or an activity that is incidental to a nonathletic program(30)

## What Are the Signs and Symptoms of Concussion?

**Concussion signs are things you can observe about the student. These include:**

* Behavior or personality changes
* Blank stare, dazed look
* Lethargy
* Changes to balance, coordination, reaction time
* Delayed or slowed spoken or physical responses
* Disorientation (confused about time, date, location, game)
* Loss of consciousness/blackout (occurs in less than 10 percent of cases)
* Memory loss of event before, during, or after injury occurred
* Slurred/unclear speech
* Trouble controlling emotions
* Vomiting

**Concussion symptoms are things the student tells you are happening. These include:**

* Blurry vision/double vision
* Confusion
* Dizziness
* Feeling hazy, foggy, or groggy
* Feeling very drowsy, having sleep problems
* Headache
* Inability to focus, concentrate
* Nausea (stomach upset)
* Not feeling right
* Numbness or tingling
* Sensitivity to light or sound

# Procedure:

## Education:

1. Once each school year, a coach should complete a concussion management certification training course offered by either the [Centers for Disease Control and Prevention](http://www.preventingconcussions.org/), the [National Federation of State High School](http://www.nfhslearn.com/electiveDetail.aspx?courseID=38000) or the [Wisconsin Interscholastic Athletic Association (Concussion Primer)](http://www.wiaawi.org/desktopmodules/hsa-rulesmeeting/rulesmeetings/concussion/player.html) (1)
	1. A coach should not coach an athletic activity until the coach completes the required training course (1)
2. At the beginning of a season for a youth athletic activity, the person operating the youth athletic activity shall distribute a concussion and head injury information sheet to:
	1. each person who will be coaching that youth athletic activity ([Wisconsin Concussion Fact Sheet for Coaches](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-facts-coaches.pdf)) (1,15,30)\*
	2. each person who wishes to participate in that youth athletic activity ([Wisconsin Concussion Fact Sheet for Athletes](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-facts-athletes.pdf)) (1,8, 15,30)\*
		1. a concussion and head injury information sheet does not need to be distributed to the pupil if the pupil has returned an appropriately signed information sheet for another youth athletic activity operated by the school during the same school year.(31)\*
3. At the beginning of a season for a youth athletic activity, each person who will be coaching the youth athletic activity must sign and return to the school an acknowledgement of their receipt and review of concussion and traumatic brain injury information ([Coaches Agreement](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-coach-agree.pdf))\*
4. At the beginning of a season for a youth athletic activity, a student desiring to participate in any athletic activity and the student’s parent or guardian must sign and return to the school an acknowledgement of their receipt and review of concussion and traumatic brain injury information ([Parent and Athlete Agreement](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-parath-agree.pdf)) (1,30)\*
	1. A student should not be allowed to participate in any athletic event, including practice or training, until the student and their parent has signed and returned the Parent and Athlete Agreement Form (28,30)\*
		1. a concussion and head injury information sheet does not need to be distributed to the pupil if the pupil has returned an appropriately signed information sheet for another youth athletic activity operated by the school during the same school year.(31)\*
	2. These signed information sheets shall be collected by the coach/supervisor of the sports team or other organized youth athletic activity and given to the (identify the appropriate staff position – Athletic/Activity Director, Building Principal) for proper recordkeeping (28)
5. Once each school year, school staff shall be provided education on concussions including:
	1. Information on how concussions can affect a student’s ability to learn
	2. Examples of common school-related concussion related symptom triggers such as reading, computer use for classwork, and prolonged concentration
	3. Concussion related triggers are variable and will differ from student to student
	4. Students who suffer a concussion may have difficulty attending school and focusing on schoolwork, taking tests, and trying to keep up with assignments, especially in math, science, and foreign-language classes
	5. Information on the risk of depression in students who suffer concussions due to the injury along with prolonged time away from sports, difficulties in school, and sleep disturbances
6. School staff will also be educated on the signs and symptoms to be aware of:
* Increased problems paying attention or concentrating
* Increased problems remembering or learning new information
* Longer time needed to complete tasks or assignments
* Difficulty organizing tasks
* Inappropriate or impulsive behavior during class
* Greater irritability
* Less ability to cope with stress or more emotional
* Complaint of headaches, especially with screen time

## Classroom Accommodations: “Return to Learn”

1. The [School District] will work with individual students who require temporary learning support accommodations due to concussions or other head injuries. ^([Sample Return to Learn Interventions and Accommodations](http://www.nationwidechildrens.org/concussions-in-the-classroom))([Accommodations & Modifications in the Elementary Classroom](http://sped.dpi.wi.gov/files/sped/doc/tbi-mod-elem.doc))([Accommodations & Modifications in the Secondary Classroom](http://sped.dpi.wi.gov/files/sped/doc/tbi-mod-sec.doc)) ([Acute Concussion Evaluation Care Plan: School Version](http://www.cdc.gov/concussion/headsup/pdf/ace_care_plan_school_version_a.pdf)). The [School District] realizes that removal from the significant demands of school until symptoms improve is an important component of cognitive rest (4,7,11,12,15,16,17,23,30,. These accommodations may include:
	1. A temporary leave of absence from school
	2. Shortening of the student’s school day
	3. Reduction of workloads in school
	4. Allowance of more time for the student to complete assignments or take tests
	5. Postponement of taking standardized tests
	6. Modification or exclusion from physical education classes
	7. Identifying an alternative to participating during recess
	8. Allowing the student to take cognitive breaks (rest period) in between classes in a supervised quiet location as needed, usually every two periods or so for traditional 1-hour classes (22,23)
		1. the student should stop the activity when mild symptoms develop and before severe symptoms develop
	9. Preprinted class notes
	10. Temporary assistance from a tutor
	11. Limited or no screen time
	12. Treatment with prescribed or parent authorized medications
	13. Allowing the student to each lunch in a quiet location
2. For students who have symptoms that are persistent (i.e., greater than 4 weeks)(5,13,24) or that substantially interfere with learning and/or the student’s ability to fully participate in the general curriculum, [School district] will develop a formal accommodation plan /health care plan based on input from the student’s family, health care professionals, including the School Nurse and school staff to provide the cognitive rest and support needed during recovery (7,12,15,16,18)
	1. A formal accommodation plan could be a Section 504 Plan and/or a referral for special education evaluation, as needed^
3. The school staff will identify a school staff member who will function as a case manager, such as a school nurse, school psychologist, school counselor, speech pathologist, teacher or other identified school professional
	1. This person will have the role of advocating for the student’s needs and serve as the primary point of contact with the student, family, healthcare provider, and all members of the team
	2. The student’s case manager will monitor the student’s symptoms periodically to determine the need for modifications in the type and intensity of academic supports
		1. [The Concussion Signs and Symptoms Checklist](http://www.cdc.gov/concussion/pdf/TBI_schools_checklist_508-a.pdf) could be used to track symptoms and progress
	3. Student’s teachers will monitor for increased problems paying attention/concentrating, memory problems, difficulty learning new information, increased headaches/fatigue, greater irritabilityand provide progress reports to the student’s case manager
4. If the student is in physical education class he/she must be cleared by a health care professional before participating in class
	1. Until the student is cleared to participate, the [School District] will make other arrangements for the student
	2. Once cleared to participate, [School District] will provide any necessary accommodations for the student during physical education class
5. If the student participates in recess, he/she must be cleared by a health care professional before he/she is allowed to participate in physical activity during recess
	1. Until the student is cleared to participate, the [School District] will make other arrangements for the student

## **Management of Head Injury Occurring During the School Day and School Sponsored Events (Before and After School/Fieldtrip):**

If there is a concern that a student sustained a concussion, the following Concussion Management Protocol must be followed:

1. Evaluate and monitor students who have a head injury
	1. Determine and document where and how injury occurred
		1. Be sure to include cause and force of the hit or blow to the head
	2. Determine and document description of injury
		1. Be sure to include information about the following signs and symptoms:
			1. Any loss of consciousness and for how long
			2. Memory loss
			3. Seizures following the injury
			4. Previous concussions
	3. If student has any of the above signs and symptoms, immediately refer the student to a health care professional
	4. The [Concussion Signs and Symptoms Checklist](http://www.cdc.gov/concussion/pdf/TBI_schools_checklist_508-a.pdf) is a helpful tool to use to document symptoms
2. Following the injury, the student should be observed by school staff (such as classroom teacher or School Nurse, depending on severity of symptoms) for signs and symptoms of concussion for a minimum of 30 minutes
3. Notify the student’s parent(s) or guardian(s) that their child had an injury to the head
4. If signs or symptoms of a concussion are present (see **What Are the Signs and Symptoms of Concussion?**) refer the student right away to a health care professional with experience in evaluating for concussion
	1. Send a copy of the [Concussion Signs and Symptoms Checklist](http://www.cdc.gov/concussion/pdf/TBI_schools_checklist_508-a.pdf) with the student for the healthcare professional to review
	2. Students should follow their health care professional’s guidance about when they can return to school and to physical activity
5. Emergency medical treatment should be pursued if there is a deterioration of symptoms including:
	1. seizure
	2. altered level of consciousness
	3. vomiting
	4. altered pupillary findings (dilated or uneven)
	5. direct neck pain associated with the injury
6. First aid shall be provided to any student who has been removed from any activity under these procedures as appropriate and necessary in accordance with the District’s standard emergency care procedures (See [School District] Emergency Nursing Services Policy and Procedure)
7. The school personnel who witnessed the event and/or provided emergency nursing services shall complete all required documentation and reporting regarding the incident in accordance with established [School District] emergency nursing services procedures, including documenting first aid provided in the emergency nursing services log and completing an accident report
8. All appropriate school officials, who have a legitimate educational interest in the information, should be notified of the event including:
	1. Building administrator
	2. Athletic trainer
	3. School Nurse
	4. Student’s teachers

## Management of Head Injury Occurring During a School Sponsored Sporting Event:

1. An athletic coach, athletic trainer, or official involved in a youth athletic activity, or health care provider shall remove a person from the youth athletic activity if the coach, official, or health care provider determines that the person exhibits signs, symptoms, or behavior consistent with a concussion or head injury OR if the coach, official, or health care provider suspects the person has sustained a concussion or head injury, in order to minimize the risk of further injury (1,2,5,10,15)\*
2. An athletic coach, athletic trainer, or official involved in a youth athletic activity, or health care provider will notify the parent or guardian when an athlete is removed from play because they are thought to have a concussion (6,16)
3. An athletic coach, athletic trainer, or official involved in a youth athletic activity, or health care provider shall observe student for signs and symptoms of concussion for a minimum of 30 minutes (6)
4. An athletic coach, athletic trainer, or official involved in a youth athletic activity, or health care provider shall complete the [Concussion Signs and Symptoms Checklist](http://www.cdc.gov/concussion/pdf/TBI_schools_checklist_508-a.pdf) and monitor students consistently during the observation period
	1. Do not allow a concussed athlete to go to the locker room alone
	2. Never allow the injured athlete to drive home (6,16)
5. First aid shall be provided to any student who has been removed from any activity under these procedures as appropriate and necessary in accordance with the District’s standard emergency care procedures (See [School District] Emergency Nursing Services Policy and Procedure)
6. The athletic coach, athletic trainer, or official involved in a youth athletic activity, or health care provider shall complete all required documentation and reporting regarding the incident in accordance with established [School District] emergency nursing services procedures, including documenting first aid provided in the emergency nursing services log and completing an accident report
7. An athletic coach, athletic trainer, or official involved in a youth athletic activity, or health care provider shall monitor the student for worsening symptoms. The following are reasons to activate the EMS, as any worsening signs or symptoms may represent a medical emergency:
	1. Loss of consciousness, this may indicate more serious head injury
	2. Decreasing level of alertness
	3. Unusually drowsy
	4. Severe or worsening headache
	5. Seizure
	6. Persistent vomiting
	7. Difficulty breathing
8. Team personnel will not permit an athlete to return to play (RTP) or practice on the same day of a concussion (1,6,10,15,16)
9. All appropriate school officials, who have a legitimate educational interest in the information, should be notified of the event including:
	1. Building administrator
	2. Licensed Athletic Trainer
	3. School Nurse
	4. School psychologist
	5. School counselor
	6. Student’s teachers
10. Team personnel will not permit the athlete to return to play, including weight training, cardiovascular training, or physical education classes, until the athlete has been assessed by an appropriate health care professional, trained in the evaluation and management of concussions (1,3,8,11,26,30)
	1. This includes sports recognized by high school athletic associations as well as youth and recreational leagues run by other entities
	2. Wisconsin Interscholastic Athletic Association (WIAA) Sports Medical advisory council identifies a physician and licensed athletic trainer (LAT) under the direct supervision of a physician as an appropriate health care professional for determining return to play other than the same day (26)
11. The student athlete must receive [written clearance](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-clearance.pdf) from an appropriate health care professional, trained in the evaluation and management of concussions that states the student athlete is asymptomatic at rest and may begin a graduated return-to-play protocol (1,16)
	1. Although the School Nurse has the knowledge and skills identify suspected concussions and help guide the student's post-concussion graduated academic and activity re-entry process(16), in most instances, a School Nurse would not have the additional training needed to provide written clearance for a student’s return to play, practice, physical education class or recess
12. Once the athlete is symptom free and is off any pain control medications and has received [written medical clearance](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-clearance.pdf) by an appropriate medical professional, the student athlete may begin a graduated individualized return-to-play protocol supervised by an athletic trainer or Licensed Physical Therapist, school/team physician or in cases where the afore mentioned are not available a physician or licensed healthcare provider trained in the evaluation and management of sports-related concussions (1,11,29,30)

The following is an example of a guideline for returning concussed athletes when they are symptom free. The example program allows for one-step per 24 hours.

* + **Step One: About 15 minutes of light exercise: stationary biking or jogging**
	+ **Step Two: More strenuous running and sprinting in the gym or field without equipment**
	+ **Step Three: Begin non-contact drills in full uniform. May also resume weight lifting**
	+ **Step Four: Full practice with contact**
	+ **Step Five: Full game clearance (26)**
1. A return of symptoms indicates inadequate recovery from the concussion
	1. If symptoms return while on the protocol, once the athlete is asymptomatic again for 24 hours, the previous step may be attempted again
	2. Any athlete who continues to have a return of symptoms with exertion should be re-evaluated by his or her health care provider (11)
2. Persons operating the youth athletic activity will maintain records of all athletes removed from play for suspected and/or confirmed concussions and corresponding written clearances provided by health care providers to return to physical activity (29)

## Pre-Athletic Season Baseline Testing:

Note: There is no requirement in Wisconsin for neuropsychological testing to be completed. WIAA, American Academy of Pediatrics and American Academy of Neurology state that neuropsychological can be helpful to provide objective data to athletes and their families after a concussion (3,11,26)

1. High schools and athletic associations should implement a tool such as the [Standardized Assessment of Concussion](http://sped.dpi.wi.gov/files/sped/pdf/tbi-conc-scat2.pdf) (SAC), which is designed for use by non-physicians on the sidelines of an athletic event (2,3,11,26)
2. Inexperienced coaching staff, Licensed Health Care Providers and other sports officials should be instructed in the proper administration of standardized validated sideline assessment tools (such as SAC) (2,3,8)
	1. This instruction should emphasize that these tools are only an adjunct to the evaluation of the athlete with suspected concussion and cannot be used alone to diagnose concussion (1)
3. It is further recommended that coaches maintain baseline testing data for all athletes (if available\*) during all practices and competitions
	1. This information can then be provided to health care providers after injury (8,29)
4. Neuropsychological testing is one tool in the complete management of a sport-related concussion and alone does not make a diagnosis or determine when return to play is appropriate (3,7,11)
	1. If districts are utilizing neuropsychological testing, high school aged students should complete testing prior to first participating on any of the following school-sponsored sports teams (list specific sports)
	2. High school aged students who have suffered a concussion should take the post-injury neurocognitive test before returning to his/her sport
		1. There are no evidence-based guidelines or validated protocols about when to administer the computerized neuropsychological test after a concussion. Some administer the test while an athlete is symptomatic to provide objective data to the family and athlete regarding the injury and again when asymptomatic to help guide return to sport. Others administer the test only after an athlete has become asymptomatic to document that the athlete’s cognitive function has returned to baseline (11)
		2. A symptomatic athlete should not be returned to play even with normal neuropsychological testing
		3. If no baseline test is available for the athlete, his or her results can often be compared with age established norms for the test
		4. Interpretation of the tests should be performed by a neuropsychologist or physician who is experienced with these tests (11)

**\*Current Wisconsin law
^Current federal law**

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**Acknowledgment of Reviewers:**

Bette Carr, MSN, RN, NCSN

Marcia Creasy, BSN, RN

Sharon Daun, RN, BSN, MS, NCSN

Rachel Gallagher, RN, MSN, CPNP, NCSN

Mary Kay Kempken, RN, BSN, NCSN

Laurel Rudolph-Kniech, MD

Jill Krueger, RN, BSN

Mary Kay Logemann, RN, BSN, MEd

Barbara Brancel Maley, RN, BSN

Kerri Schmidt, BSN, RN, NCSN

Joan Simpson, RN, BSN, MPH

Lynne Svetnicka, RN, MS, CPNP

Lori Zinck-Jezwinski, RN, MS, CPNP

## Resources:

1. American Academy of Neurology: Sports Concussion Toolkit <http://www.aan.com/go/practice/concussion>
2. Center for Disease Control: Injury Prevention & Control: Traumatic Brain Injury <http://www.cdc.gov/concussion/>
3. National Children’s: Concussion Toolkit: <http://www.nationwidechildrens.org/concussion-toolkit>
4. [Wisconsin Department of Public Instruction: Traumatic Brain Injury](http://sped.dpi.wi.gov/sped_tbi)